Roland®

VersaSTUDIO
SIGN MAKER BN-20

Basic Course for BN-20

Roland DG Academy

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Introduction

This training guide has been compiled to help you to understand the series of steps required to print with VersaSTUDIO BN-20. Metallic silver graphic data creation, output settings and printing methods are mainly explained.

All Explanations on the guide use VersaSTUDIO BN-20 (including Utility) and Adobe® Illustrator except R-Works.

Functions and Applications for BN-20

The BN-20 is compact and new concept printer including three functions; printing only, cutting only, and printing and cutting, which is especially suited for SOHO print business

Inaddition, you can easily create premium value decals and posters with Metallic silver ink.

◆ Metallic Silver Ink

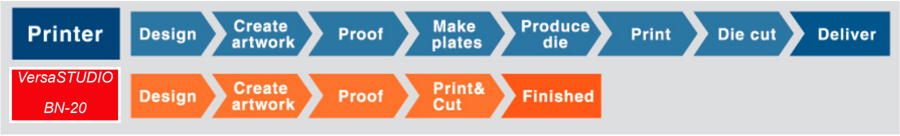
Metallic Silver Ink is a special ink which includes silver color material for inkjet printer.

With the addition of Metallic Silver Ink, The BN-20 allows you to express brilliant metallic silver colors and easily print a variety of metallic colors - gold, bronze, titanuim black, metallic blue and metallic green - combining with CYMK process color.

The Metallic Silver Ink is an epoch-making ink which can open a new world of createvie expression.

◆ Print and Cut Funtion

The Print-Cut function is an unique and convenient solution of Roland, it combines the printing and cutting function into a single piece of equipment. After printing, the media is repositioned and cut in the same location. The printing and cutting can be performed without having to remove the media which greatly reduce the operation time compared to conventional label printing processes.



1 Output Data Preparation

Creating Output Data

In case of output from Adobe® Illustrator®, you can use a RIP and print management software "Roland VersaWorks" included with the product. It makes it possible to process both RGB and CMYK data.

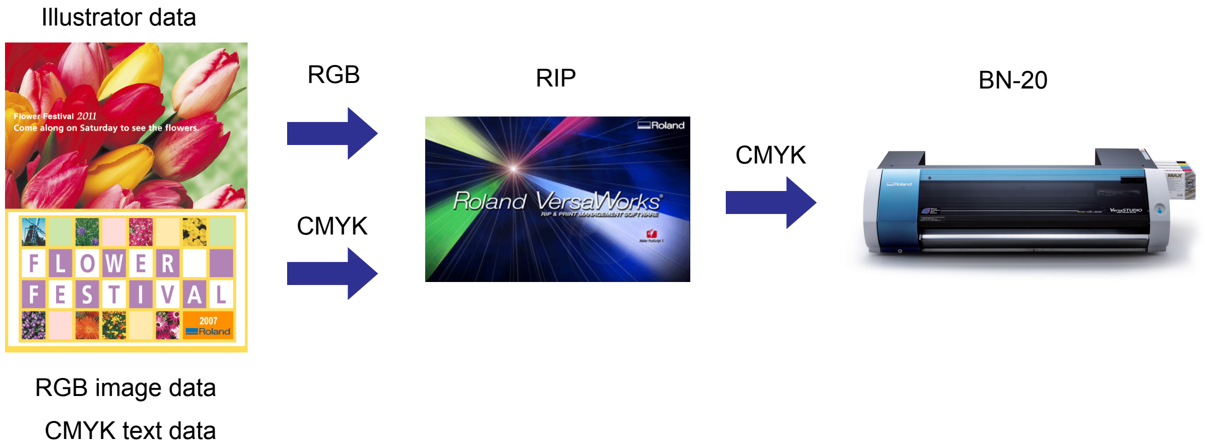
When designing bitmap, text or vector graphics, you can gain desirable output results by taking note of the following points.

The explanations are based on Illustrator here below.

1) Color mode in Illustrator

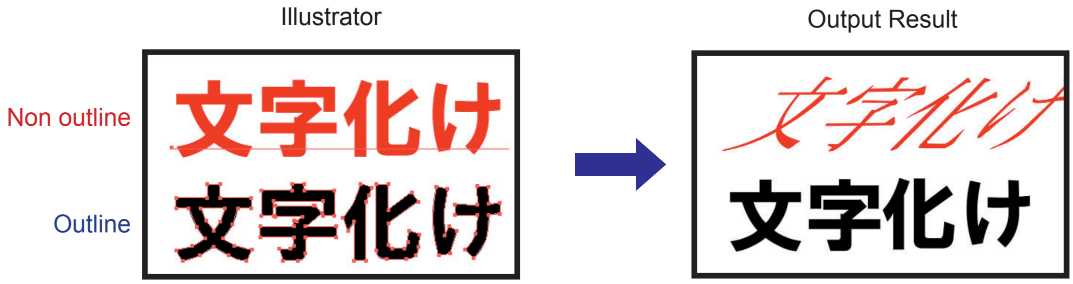
Make sure that you set the Illustrator color mode as [CMYK Color].

Bitmap data should be created using [RGB Color] and text and vector data should be created using [CMYK Color]. However, data that has already been converted to the CMYK color format will be handled as such.


Illustrator data
Flower Festival 2011
Come along on Saturday to see the flowers.
FLOWER
FESTIVAL
2007
Roland
RGB
CMYK
RIP
Roland
Roland VersaWorks
RIP & PRINT MANAGEMENT SOFTWARE
CMYK
BN-20
RGB image data
CMYK text data

2) Outline text data

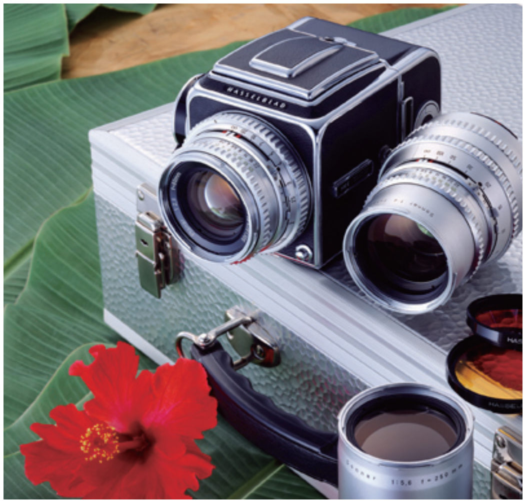
Because of PostScript processing, all the texts other than PS fonts will become corrupted. Ensure that you outline the text.


Illustrator
Output Result
Non outline
Outline
文字化け
文字化け
文字化け
文字化け

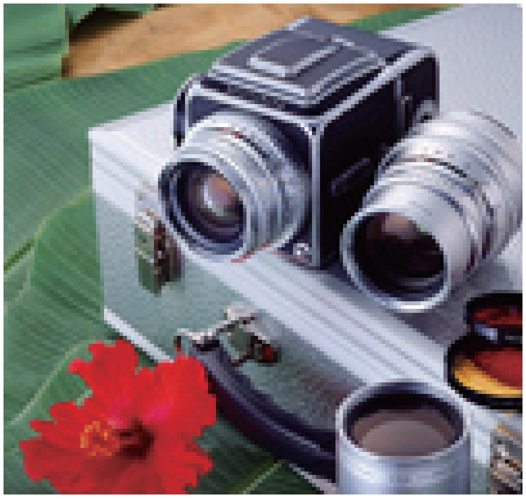
3) What is an Appropriate Resolution for the Image Data?

For large format printing, the desired image resolution is 150 PPI at full size. In case of low resolution, its image is an unsuitable for viewing from a short distance since the pixel is too coarse. If an original image resolution is low, the print quality will not improve by increasing the image resolution set with an application. The resolution of the original image must be as high as possible. If scanning, the highest resolution should be used and then saved to an appropriate lower resolution after all adjustments have been made.

150ppi

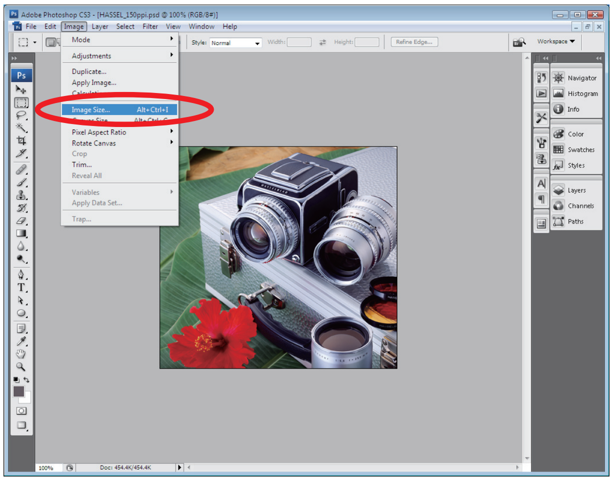


50ppi



How to confirm [Image Size] in Photoshop

Select [Image Size] on the [Image] menu.


Adobe Photoshop CS3 - [HASSEL_150ppi.psd @ 100% (RGB/8#)]
File Edit Image Layer Select Filter View Window Help
Mode
Adjustments
Duplicate...
Apply Image...
Image Size... Alt+Ctrl+I
Pixel Aspect Ratio
Rotate Canvas
Crop
Trim...
Reveal All
Variables
Apply Data Set...
Trap...
Style: Normal
Refine Edge...
Workspace
Navigator
Histogram
Info
Color
Swatches
Styles
Layers
Channels
Paths

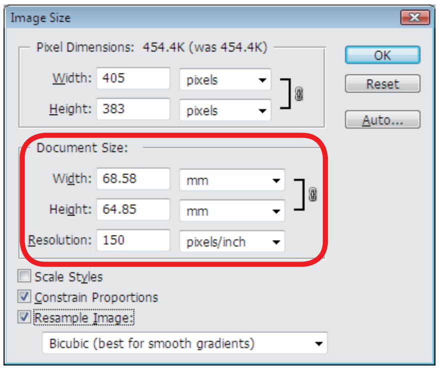


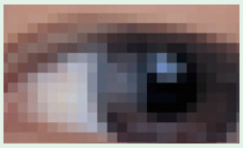
Image Size
OK
Reset
Auto...

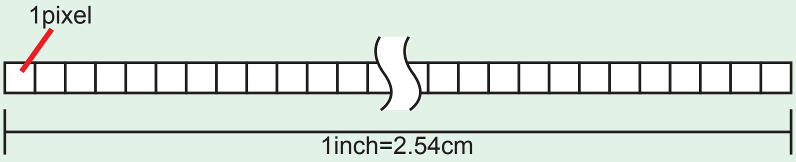
Pixel Dimensions: 454.4K (was 454.4K)
Width: 405 pixels
Height: 383 pixels
Document Size:
Width: 68.58 mm
Height: 64.85 mm
Resolution: 150 pixels/inch
☐ Scale Styles
☑ Constrain Proportions
☑ Resample Image:
Bicubic (best for smooth gradients)

Document size: 68.58 mm x 68.58 mm
Resolution: 150 PPI. File size: 454.4K

What is PPI (Pixels Per Inch)?

PPI (pixels per inch) is a measurement of the resolution on devices such as monitors. Squares are aligned horizontally and vertically, and each of these displays a color, shade and tone. Each of these squares is called a pixel and the PPI unit refers to how many pixels are contained within 1 inch (2.54 cm).
For example, 100 PPI means that 1 inch long line contains 100 pixels.




1pixel
1inch=2.54cm

4）Important Points when Placing (Linking or Embedding) an Image Data

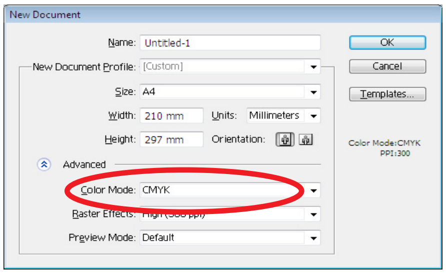
Adobe Illustrator version 9 and later allows you to select the color mode for the document as an output setting for the artwork. You can select the color mode, [RGB] or [CMYK] when creating a new file.

This feature can cause differences in the output when placing an EPS file by linking or embedding.

For example, when the document color mode is set to CMYK, embedding an RGB image causes the image to be converted to CMYK, changing the color of the image data.

For applications such as signs and banners where the saturation is important, it is recommended to link the image data when placing an RGB image in Illustrator.

Placing RGB image with EPS format in a CMYK document (link or embed)

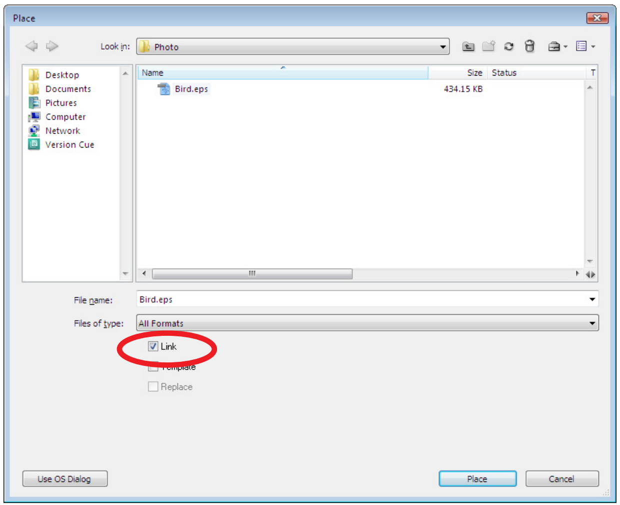

New Document

Name: Untitled-1
New Document Profile: [Custom]
Size: A4
Width: 210 mm Units: Millimeters
Height: 297 mm Orientation:
Advanced
Color Mode: CMYK
Raster Effects: High (300 ppi)
Preview Mode: Default

Color Mode:CMYK
PPI:300

OK
Cancel
Templates...

<Link>


Place

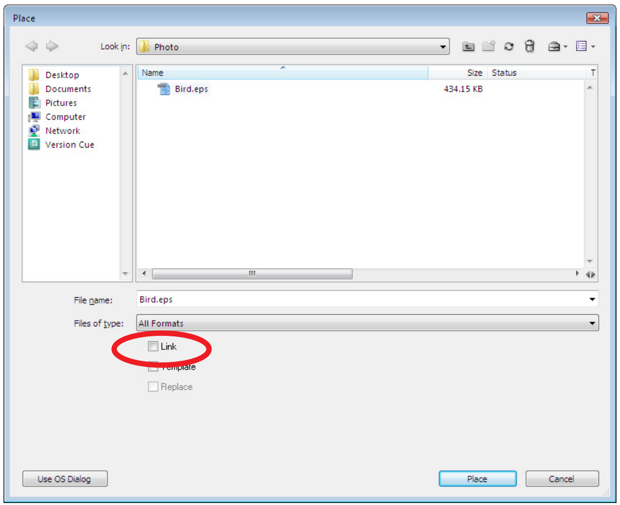
Look in: Photo

Name	Size	Status
Bird.eps	434.15 KB	

File name: Bird.eps
Files of type: All Formats
☑ Link
☐ Template
☐ Replace

Desktop
Documents
Pictures
Computer
Network
Version Cue
Use OS Dialog
Place
Cancel

<Embed>


Place

Look in: Photo

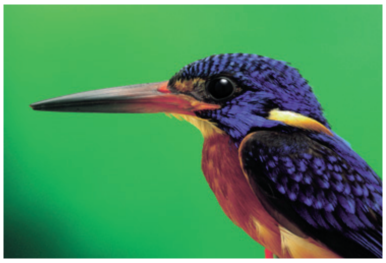
Name	Size	Status
Bird.eps	434.15 KB	

File name: Bird.eps
Files of type: All Formats
☐ Link
☐ Template
☐ Replace

Desktop
Documents
Pictures
Computer
Network
Version Cue
Use OS Dialog
Place
Cancel

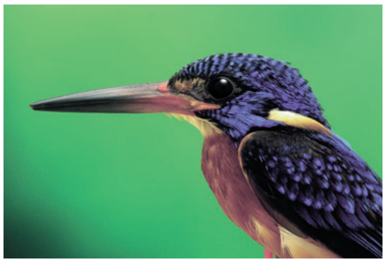
<Simulated Output: Link>

RGB data



<Simulated Output: Embed>

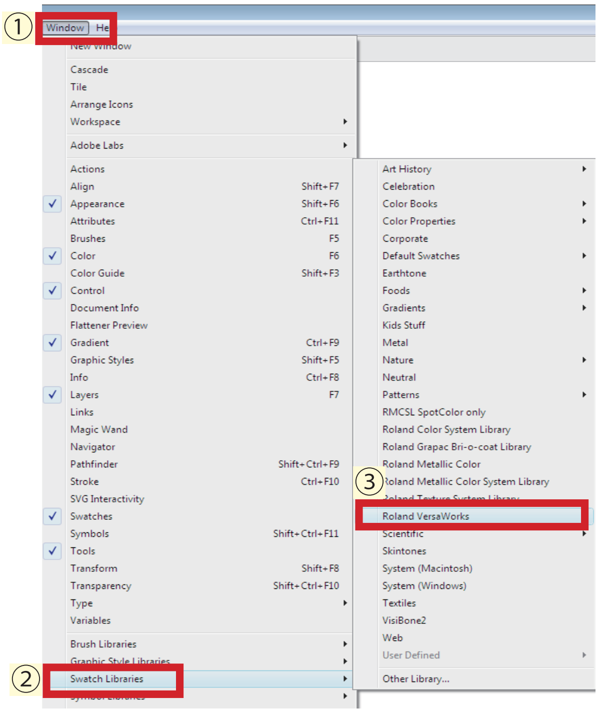
Converted from RGB data to CMYK data

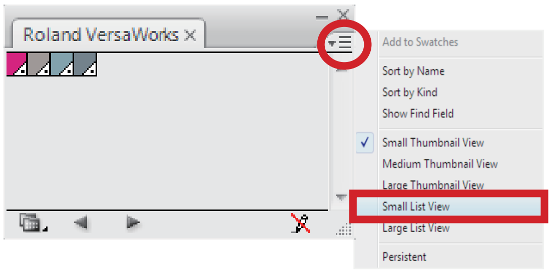


Creating Cutting Data

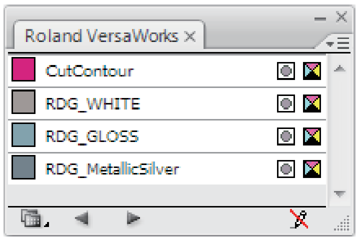
You can easily configure the color of cutline (path) to the spot color named "CutContour"in application software (Illustrator, etc,.) and then the "Cutcontour" is recognized as the cutting line.

1． Open "Swatch Libraries" for spot color.
Select [Window] – [Swatch Libraries] – [Roland VersaWorks] from Illustrator [Menu] bar.


①
Window
New Window
Cascade
Tile
Arrange Icons
Workspace
Adobe Labs
Actions
Align Shift+F7
Appearance Shift+F6
Attributes Ctrl+F11
Brushes F5
Color F6
Color Guide Shift+F3
Control
Document Info
Flattener Preview
Gradient Ctrl+F9
Graphic Styles Shift+F5
Info Ctrl+F8
Layers F7
Links
Magic Wand
Navigator
Pathfinder Shift+Ctrl+F9
Stroke Ctrl+F10
SVG Interactivity
Swatches
Symbols Shift+Ctrl+F11
Tools
Transform Shift+F8
Transparency Shift+Ctrl+F10
Type
Variables
Brush Libraries
Graphic Style Libraries
②
Swatch Libraries
Symbol Libraries
Art History
Celebration
Color Books
Color Properties
Corporate
Default Swatches
Earthtone
Foods
Gradients
Kids Stuff
Metal
Nature
Neutral
Patterns
RMCSL SpotColor only
Roland Color System Library
Roland Grapac Bri-o-coat Library
Roland Metallic Color
③
Roland Metallic Color System Library
Roland Texture System Library
Roland VersaWorks
Scientific
Skintones
System (Macintosh)
System (Windows)
Textiles
VisiBone2
Web
User Defined
Other Library...

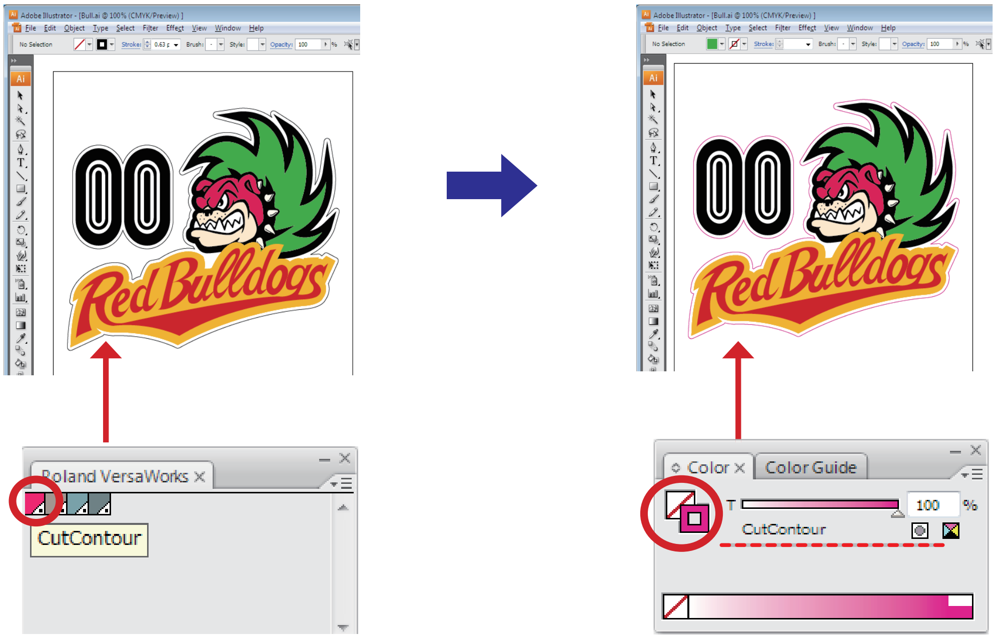

Roland VersaWorks
Add to Swatches
Sort by Name
Sort by Kind
Show Find Field
Small Thumbnail View
Medium Thumbnail View
Large Thumbnail View
Small List View
Large List View
Persistent

Change the view to [Small List View]


Roland VersaWorks
CutContour
RDG_WHITE
RDG_GLOSS
RDG_MetallicSilver

- CutContour …………. Cutline
- RDG_WHITE……….. White Ink
- RDG_GLOSS………. Gloss Ink
- RDG_MetallicSilver… Metallic Silver

2． Change the line to [CutCoutour] after selecting an object you would like to cut.

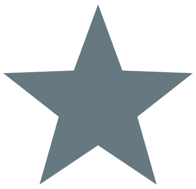

00
Red Bulldogs
Roland VersaWorks
CutContour
Color
Color Guide
100
%
CutContour

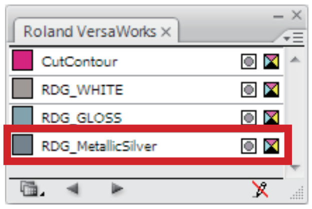
Metallic Silver Graphic Data Creation

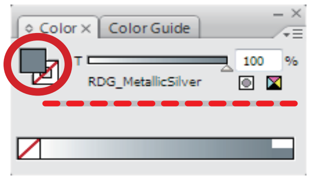
With the addtion of Metallic Silver Ink, you can create a variety of color expression by using how to create Metallic silver graphic data and output settings.

You can easily output not only Metallic silver color but also Metallic Color System Library (512 colors) which combines metallic silver ink with CMYK process colors.

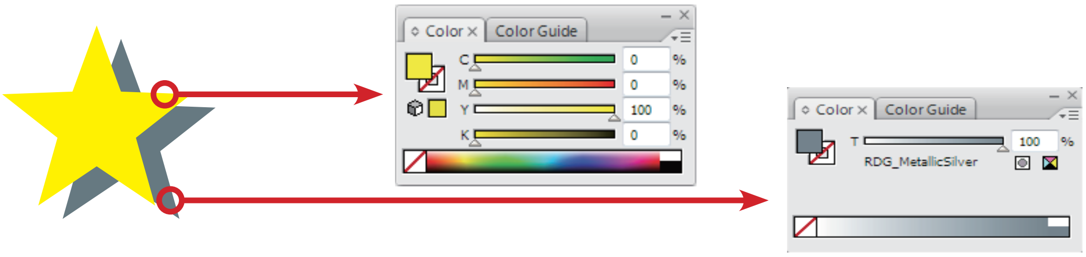
1) Metallic Silver



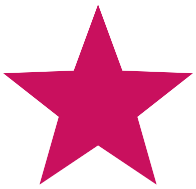

Roland VersaWorks
CutContour
RDG_WHITE
RDG_GLOSS
RDG_MetallicSilver

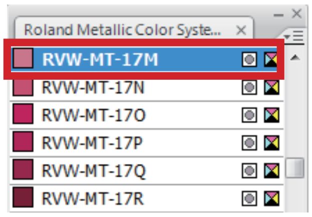

Color
Color Guide
T
100
%
RDG_MetallicSilver

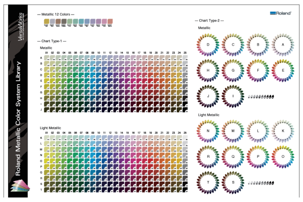
2) Original Metallic Color (Silver & CMYK Colors)


Color
Color Guide
C
0
%
M
0
%
Y
100
%
K
0
%
Color
Color Guide
T
100
%
RDG_MetallicSilver

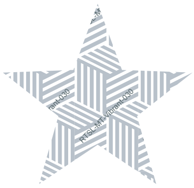
3) Metallic Color System Library (512 colors)

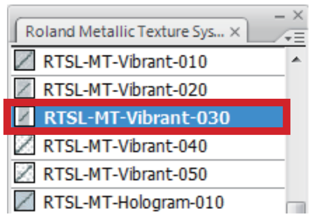


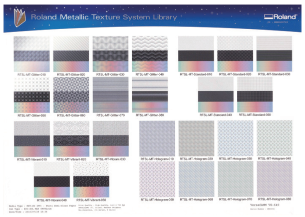

Roland Metallic Color Syste...
RVW-MT-17M
RVW-MT-17N
RVW-MT-17O
RVW-MT-17P
RVW-MT-17Q
RVW-MT-17R



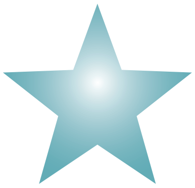
4) Metallic Texture System Library (26 patterns)

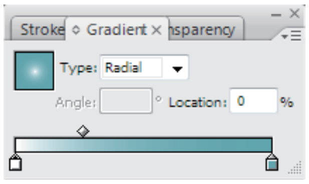


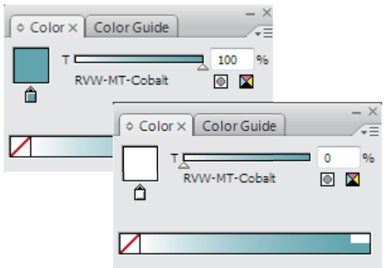

Roland Metallic Texture Sys...
RTSL-MT-Vibrant-010
RTSL-MT-Vibrant-020
RTSL-MT-Vibrant-030
RTSL-MT-Vibrant-040
RTSL-MT-Vibrant-050
RTSL-MT-Hologram-010


Roland Metallic Texture System Library

5) Metallic Silver Gradation

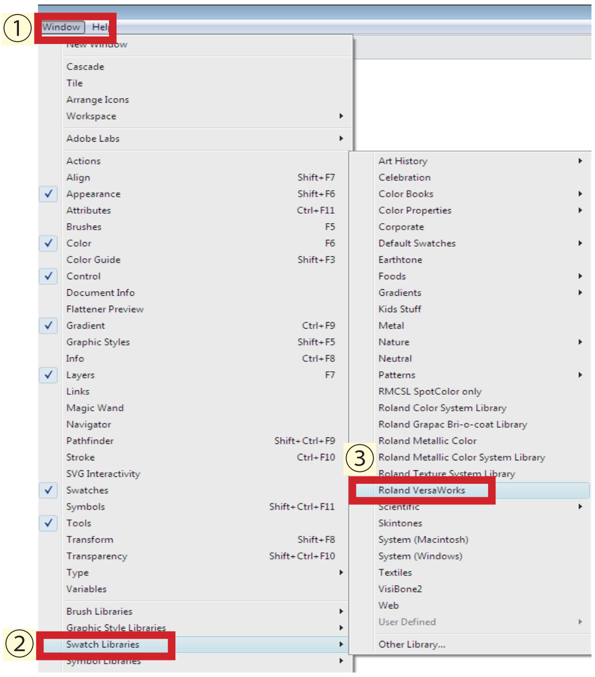


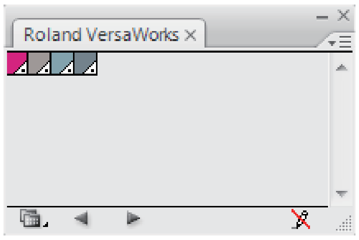

Stroke
Gradient
nsparency
Type:
Radial
Angle:
°
Location:
0
%


Color
Color Guide
T
100
%
RVW-MT-Cobalt
Color
Color Guide
T
0
%
RVW-MT-Cobalt

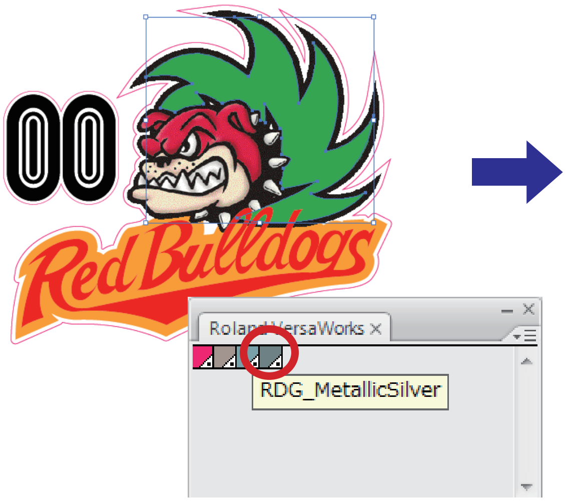
1) Metallic Silver

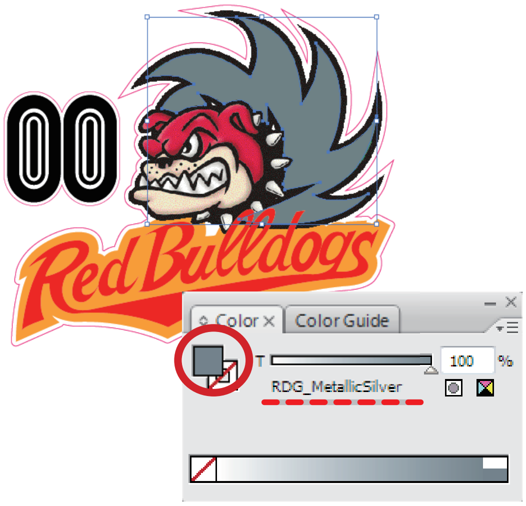
1． Open "Swatch Libraries" for Metallic Silver.
Select [Window] – [Swatch Libraries] – [Roland VersaWorks] from Illustrator [Menu] bar.


①
Window
Help
New Window
Cascade
Tile
Arrange Icons
Workspace
Adobe Labs
Actions
Align Shift+F7
Appearance Shift+F6
Attributes Ctrl+F11
Brushes F5
Color F6
Color Guide Shift+F3
Control
Document Info
Flattener Preview
Gradient Ctrl+F9
Graphic Styles Shift+F5
Info Ctrl+F8
Layers F7
Links
Magic Wand
Navigator
Pathfinder Shift+Ctrl+F9
Stroke Ctrl+F10
SVG Interactivity
Swatches
Symbols Shift+Ctrl+F11
Tools
Transform Shift+F8
Transparency Shift+Ctrl+F10
Type
Variables
Brush Libraries
Graphic Style Libraries
②
Swatch Libraries
Symbol Libraries
Art History
Celebration
Color Books
Color Properties
Corporate
Default Swatches
Earthtone
Foods
Gradients
Kids Stuff
Metal
Nature
Neutral
Patterns
RMCSL SpotColor only
Roland Color System Library
Roland Grapac Bri-o-coat Library
Roland Metallic Color
③
Roland Metallic Color System Library
Roland Texture System Library
Roland VersaWorks
Scientific
Skintones
System (Macintosh)
System (Windows)
Textiles
VisiBone2
Web
User Defined
Other Library...


Roland VersaWorks

2． Select an object and configure “RDG_MetallicSIlver” to it in order to paint the object.

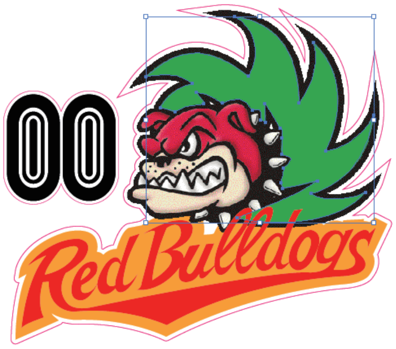

00
Red Bulldogs
Roland VersaWorks
RDG_MetallicSilver


00
Red Bulldogs
Color
Color Guide
T
100 %
RDG_MetallicSilver

2）Original Metallic Color (Silver & CMYK colors)

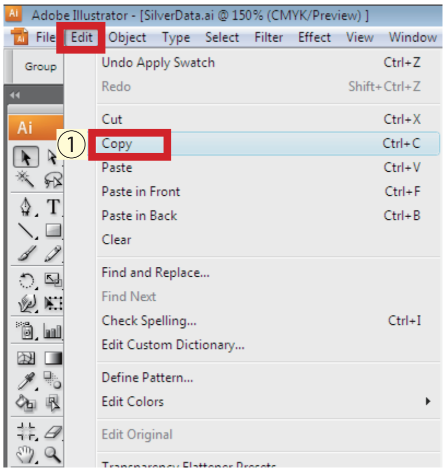
When "CMYK (process) colors" and “RDG_MetallicSilver” are overlapped, you can create an original metallic color by by mixing the two colors.

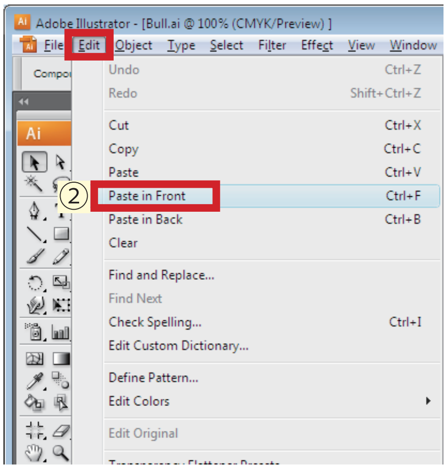
1． Select an object you would like to edit.


00
Red Bulldogs

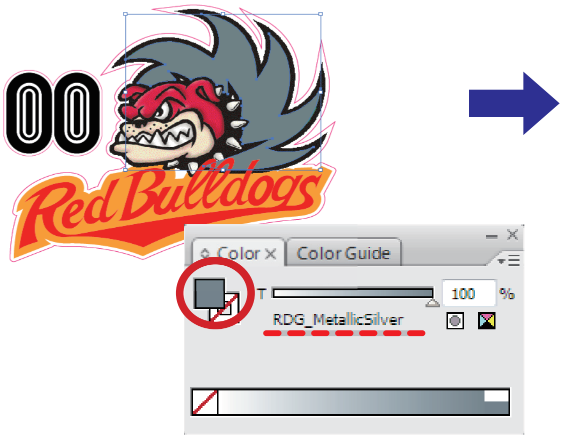
① Click [Edit] – [Copy].

② Then click [Edit]-[Paste in Front] to copy it to the Forehead.

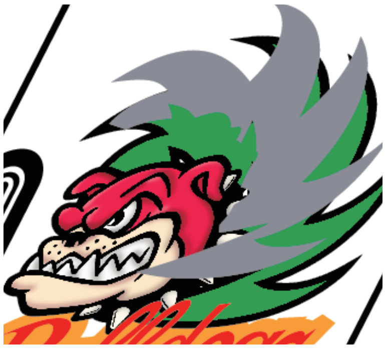

Adobe Illustrator - [SilverData.ai @ 150% (CMYK/Preview)]
File
Edit
Object
Type
Select
Filter
Effect
View
Window
Group
Undo Apply Swatch Ctrl+Z
Redo Shift+Ctrl+Z
Cut Ctrl+X
①
Copy Ctrl+C
Paste Ctrl+V
Paste in Front Ctrl+F
Paste in Back Ctrl+B
Clear
Find and Replace...
Find Next
Check Spelling... Ctrl+I
Edit Custom Dictionary...
Define Pattern...
Edit Colors
Edit Original


Adobe Illustrator - [Bull.ai @ 100% (CMYK/Preview)]
File
Edit
Object
Type
Select
Filter
Effect
View
Window
Undo Ctrl+Z
Redo Shift+Ctrl+Z
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
②
Paste in Front Ctrl+F
Paste in Back Ctrl+B
Clear
Find and Replace...
Find Next
Check Spelling... Ctrl+I
Edit Custom Dictionary...
Define Pattern...
Edit Colors
Edit Original

2． While selecting the copied object pasted in front, specify [RDG_MetallicSilver] to paint the object.


00
Red Bulldogs
Color
Color Guide
T
100
%
RDG_MetallicSilver

【Graphic Data Completed】



Green object and [RDG_MetallicSilver] object are overlapped.

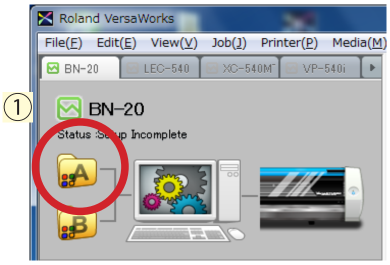
3) Metallic Color System Library 512 colors

Roland Metallic Color System Library is a spot color library for metallic silver colors.
This library consists of 512 spot colors and each spot color is named like “RVW-MT-Silver” and “RVW-MT-01A” (combination of alphabet and number)
Print out "Metallic Color Chart" of this library from Roland VersaWorks in advance, pick up color you would like to apply for your design (objects).

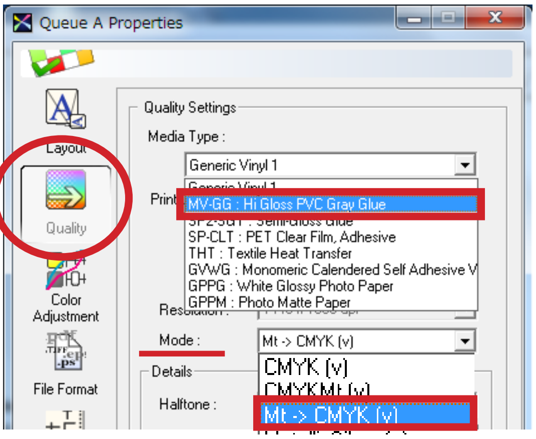
◆ How to output Metallic Color Chart

1． Print out [Metallic Color Chart] of Metallic Color System Library from Roland VersaWorks.
   ① Open [Queue A Properties].
   ② Click [OK] after selecting [Quality]→([Media Type] & [Mode]).

①


Roland VersaWorks
File(F) Edit(E) View(V) Job(J) Printer(P) Media(M)
BN-20
LEC-540
XC-540MT
VP-540i
BN-20
Status :Setup Incomplete
A
B

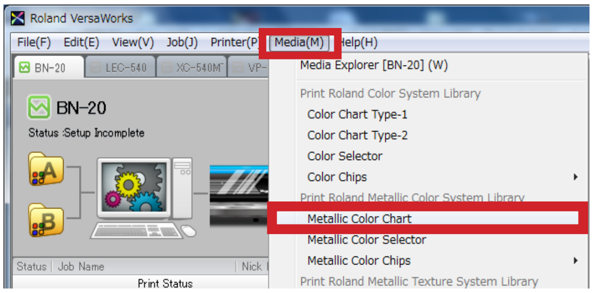
②


Queue A Properties
Layout
Quality
Color Adjustment
File Format
Quality Settings
Generic Vinyl 1
MV-GG : Hi Gloss PVC Gray Glue
SP-CLT : PET Clear Film, Adhesive
THT : Textile Heat Transfer
GVWG : Monomeric Calendered Self Adhesive V
GPPG : White Glossy Photo Paper
GPPM : Photo Matte Paper
CMYK (v)
CMYKMt (v)
Mt -> CMYK (v)
Details
Halftone :

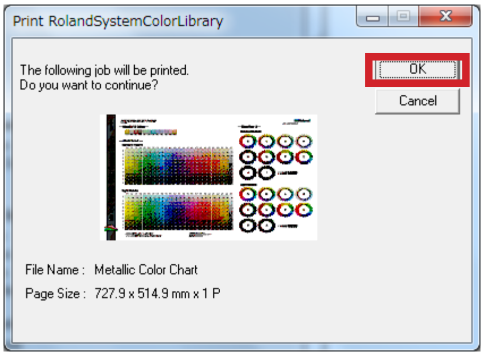
Media Type : Generic Vinyl 1

Mode : Mt -> CMYK (v)

2． Select [Media]→[Print Roland Metallic Color System Library> Metallic Color Chart].


Roland VersaWorks
File(F) Edit(E) View(V) Job(J) Printer(P) Media(M) Help(H)
BN-20
LEC-540
XC-540MT
BN-20
Status :Setup Incomplete
Media Explorer [BN-20] (W)
Print Roland Color System Library
Color Chart Type-1
Color Chart Type-2
Color Selector
Color Chips
Print Roland Metallic Color System Library
Metallic Color Chart
Metallic Color Selector
Metallic Color Chips
Print Roland Metallic Texture System Library
Status
Job Name
Nick
Print Status

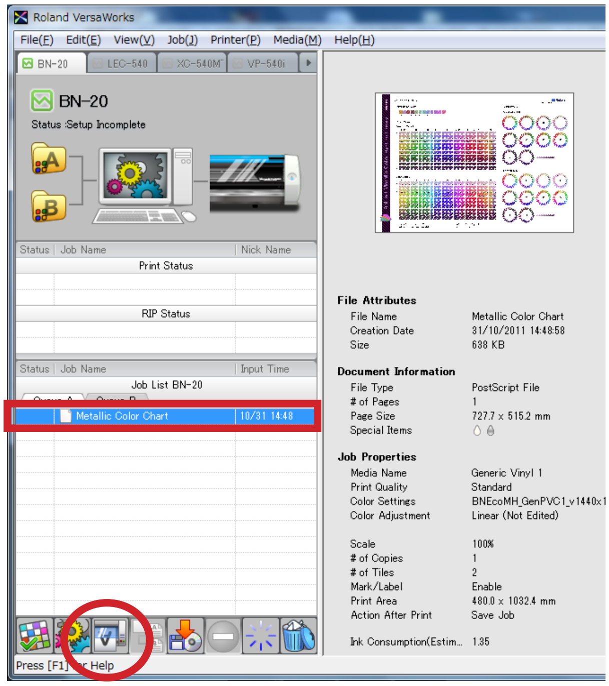
3． Your confirmation is requested.
   Click [OK] to load a file to Roland VersaWorks.


Print RolandSystemColorLibrary
OK
Cancel

The following job will be printed.
Do you want to continue?

File Name : Metallic Color Chart
Page Size : 727.9 x 514.9 mm x 1 P

4. A job of Metallic Color Chart is loaded to [Queue A Properties].
Click [RIPping & Printing] in the tool bar after configuring job settings (Scale, Quality, etc,).
The job is output after ripping.


Roland VersaWorks
File(F) Edit(E) View(V) Job(J) Printer(P) Media(M) Help(H)
BN-20
LEC-540
XC-540MT
VP-540i
BN-20
Status :Setup Incomplete
A
B
Status
Job Name
Nick Name
Print Status
RIP Status
Status
Job Name
Input Time
Job List BN-20
Queue A
Queue B
Press [F1] for Help

Metallic Color Chart 10/31 14:48

File Attributes
File Name Metallic Color Chart
Creation Date 31/10/2011 14:48:58
Size 638 KB

Document Information
File Type PostScript File
# of Pages 1
Page Size 727.7 x 515.2 mm
Special Items

Job Properties
Media Name Generic Vinyl 1
Print Quality Standard
Color Settings BNEcoMH_GenPVC1_v1440x1
Color Adjustment Linear (Not Edited)

Scale 100%
# of Copies 1
# of Tiles 2
Mark/Label Enable
Print Area 480.0 x 1032.4 mm
Action After Print Save Job

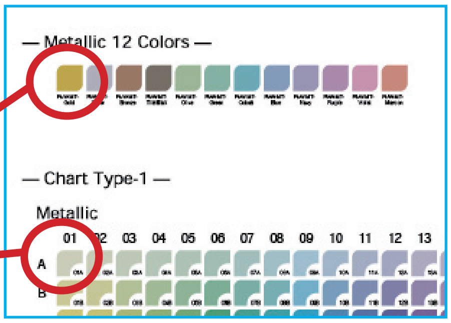
Ink Consumption(Estim... 1.35

Each color in the color chart has an individual name. (ex. RVW-MT-Gold, RVW-MT-01A)

【 Ex. 】

RVW-MT-Gold

RVW-MT-01A

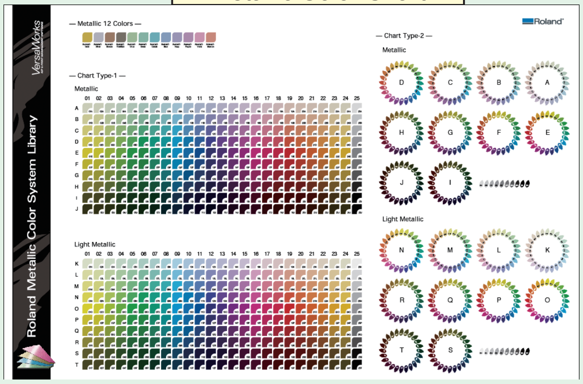

Metallic 12 Colors
Chart Type-1
Metallic
01
02
03
04
05
06
07
08
09
10
11
12
13
A
B

ADVICE

There are 3 kinds of color charts in Roland Metallic Color System Library. Use a suitable chart for your purpose.

◆ Metallic Color Chart
◆ Metallic Color Selector
◆ Metallic Color Chips

Metallic Color Chart

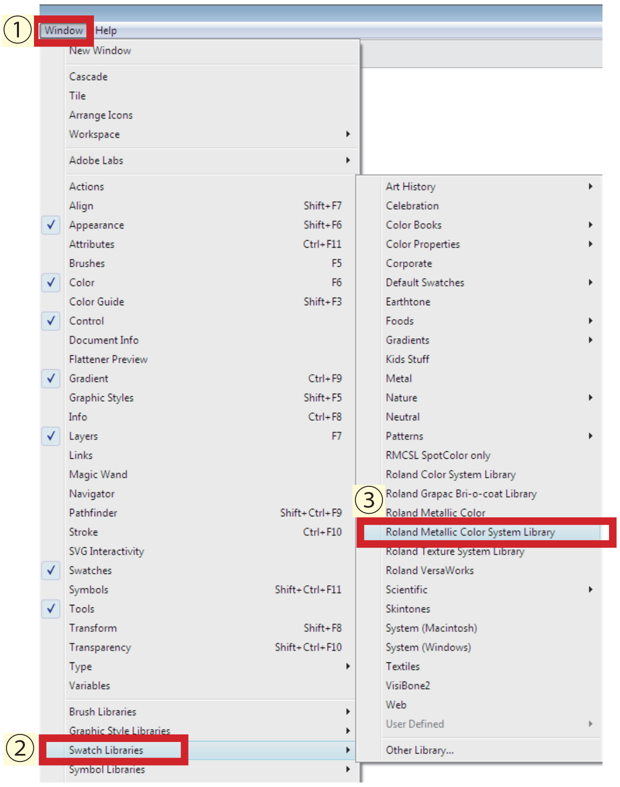

Roland Metallic Color System Library
VersaWorks
Metallic 12 Colors
Chart Type-1
Metallic
Light Metallic
Chart Type-2
Roland

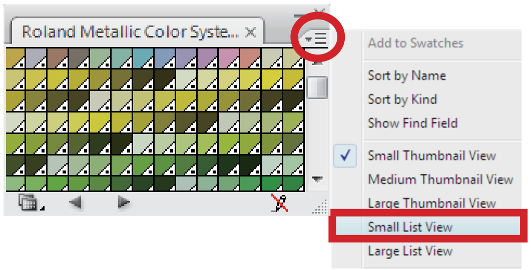
Metallic Color Selector

Roland Metallic Color System Library

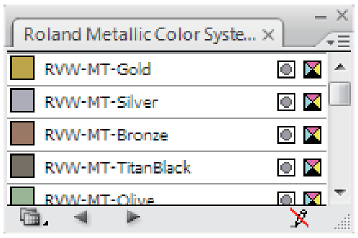
◆ How to create Metallic color data

1． Open "Swatch Libraries" for Metallic Color System Library.
Select [Window] – [Swatch Libraries] – [Roland Metallic Color System Library] from Illustrator [Menu] bar.

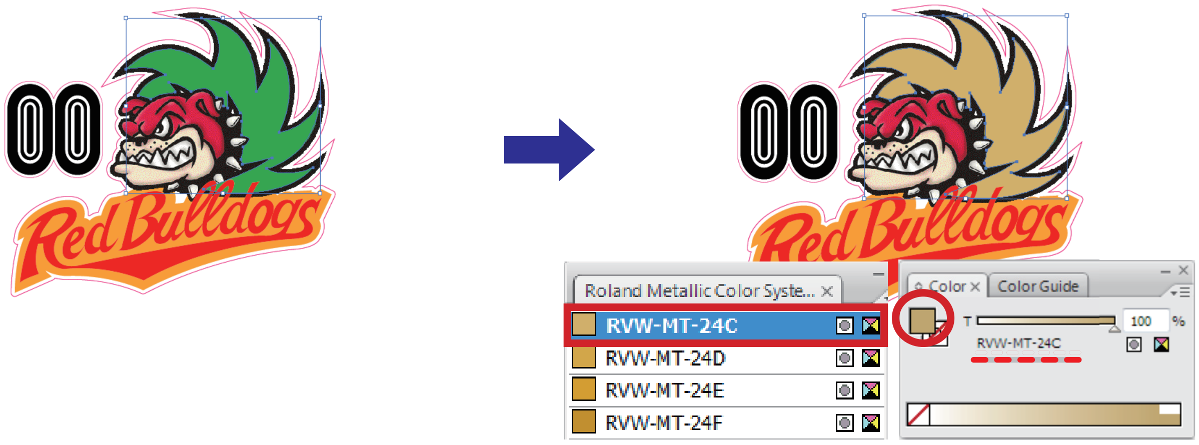

①
Window
Help
New Window
Cascade
Tile
Arrange Icons
Workspace
Adobe Labs
Actions
Align Shift+F7
Appearance Shift+F6
Attributes Ctrl+F11
Brushes F5
Color F6
Color Guide Shift+F3
Control
Document Info
Flattener Preview
Gradient Ctrl+F9
Graphic Styles Shift+F5
Info Ctrl+F8
Layers F7
Links
Magic Wand
Navigator
Pathfinder Shift+Ctrl+F9
Stroke Ctrl+F10
SVG Interactivity
Swatches
Symbols Shift+Ctrl+F11
Tools
Transform Shift+F8
Transparency Shift+Ctrl+F10
Type
Variables
Brush Libraries
Graphic Style Libraries
②
Swatch Libraries
Symbol Libraries
Art History
Celebration
Color Books
Color Properties
Corporate
Default Swatches
Earthtone
Foods
Gradients
Kids Stuff
Metal
Nature
Neutral
Patterns
RMCSL SpotColor only
Roland Color System Library
③
Roland Grapac Bri-o-coat Library
Roland Metallic Color
Roland Metallic Color System Library
Roland Texture System Library
Roland VersaWorks
Scientific
Skintones
System (Macintosh)
System (Windows)
Textiles
VisiBone2
Web
User Defined
Other Library...


Roland Metallic Color Syste...
Add to Swatches
Sort by Name
Sort by Kind
Show Find Field
Small Thumbnail View
Medium Thumbnail View
Large Thumbnail View
Small List View
Large List View

Small List View


Roland Metallic Color Syste...
RVW-MT-Gold
RVW-MT-Silver
RVW-MT-Bronze
RVW-MT-TitanBlack
RVW-MT-Olive

2. Select a color you like from pre-arranged Metallic Color Chart and apply it (RVW-MT-**) to the fill of an object.

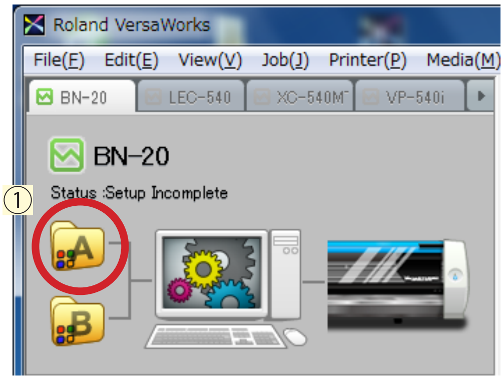

00
Red Bulldogs
Roland Metallic Color Syste...
RVW-MT-24C
RVW-MT-24D
RVW-MT-24E
RVW-MT-24F
Color
Color Guide
T
100
%
RVW-MT-24C

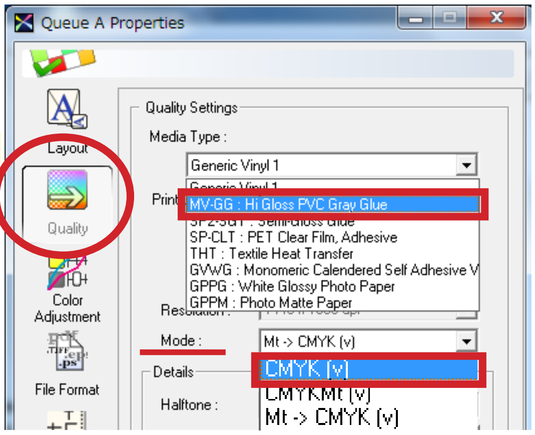
4）Metallic Texture System Library

Roland Metallic Texture System Library is a function to easily print metallic texture patterns like a hair line or geometoric designs using metallic silver ink. There are 26 kinds of the metallic texture patterns as design patterns. You can easily express a metallc and texture using this patterns together with CMYK color.
Print the pattern chart of the Metallic Texture System Library in advance and select the metallic texture you like to use in the chart and then apply it to your garaphic design.

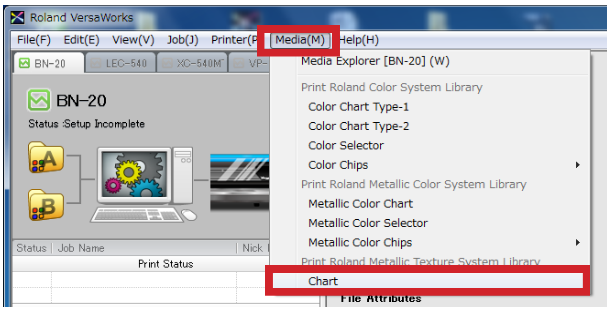
◆ How to output a sample chart

1． Print out [Metallic Color Chart] of Metallic Texture System Library from Roland VersaWorks.
   ① Open [Queue A Properties].
   ② Click [OK] after selecting [Quality]→([Media Type] & [Mode]).

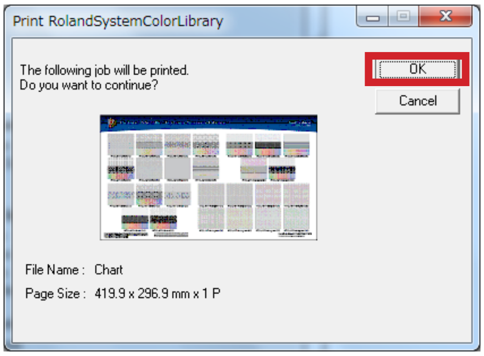

Roland VersaWorks
File(F)
Edit(E)
View(V)
Job(J)
Printer(P)
Media(M)
BN-20
LEC-540
XC-540MT
VP-540i
BN-20
Status :Setup Incomplete
①
A
B


Queue A Properties
②
Layout
Quality
Color Adjustment
File Format
Quality Settings
Media Type :
Generic Vinyl 1
Generic Vinyl 1
MV-GG : Hi Gloss PVC Gray Glue
SP-SGT : Semi-Gloss Glue
SP-CLT : PET Clear Film, Adhesive
THT : Textile Heat Transfer
GVWG : Monomeric Calendered Self Adhesive V
GPPG : White Glossy Photo Paper
GPPM : Photo Matte Paper
Print
Resolution
Mode :
Mt -> CMYK (v)
Details
Halftone :
CMYK (v)
CMYKMt (v)
Mt -> CMYK (v)

2． Select [Media]→[Print Roland Metallic Texture System Library > Chart].


Roland VersaWorks
File(F)
Edit(E)
View(V)
Job(J)
Printer(P)
Media(M)
Help(H)
BN-20
LEC-540
XC-540MT
BN-20
Status :Setup Incomplete
A
B
Status
Job Name
Nick
Print Status
Media Explorer [BN-20] (W)
Print Roland Color System Library
Color Chart Type-1
Color Chart Type-2
Color Selector
Color Chips
Print Roland Metallic Color System Library
Metallic Color Chart
Metallic Color Selector
Metallic Color Chips
Print Roland Metallic Texture System Library
Chart
File Attributes

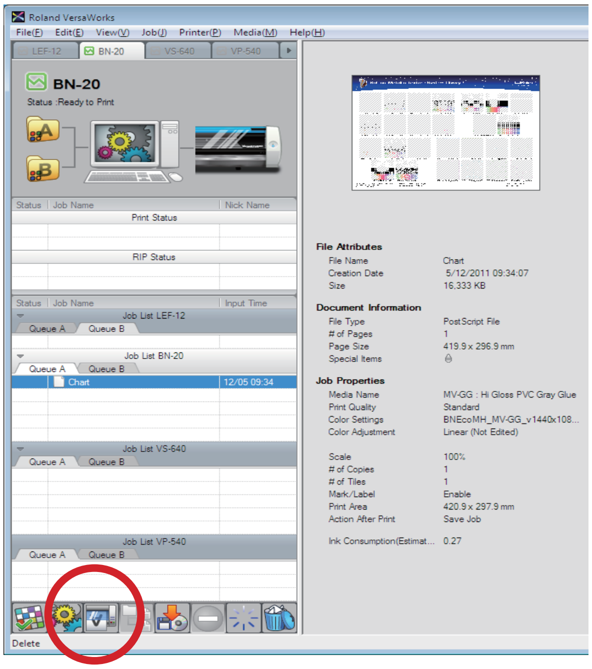
3． Your confirmation is requested.
   Click [OK] to load a file to Roland VersaWorks.


Print RolandSystemColorLibrary
OK
Cancel

The following job will be printed.
Do you want to continue?

File Name : Chart
Page Size : 419.9 x 296.9 mm x 1 P

4. A job of Metallic Color Chart is loaded to [Queue A Properties].
Click [RIPping & Printing] in the tool bar.
The job is output after ripping.


Roland VersaWorks
File(F) Edit(E) View(V) Job(J) Printer(P) Media(M) Help(H)
LEF-12
BN-20
VS-640
VP-540
BN-20
Status :Ready to Print
A
B
Status
Job Name
Nick Name
Print Status
RIP Status
Status
Job Name
Input Time
Job List LEF-12
Queue A
Queue B
Job List BN-20
Queue A
Queue B
Chart
12/05 09:34
Job List VS-640
Queue A
Queue B
Job List VP-540
Queue A
Queue B
Delete

File Attributes
File Name Chart
Creation Date 5/12/2011 09:34:07
Size 16,333 KB

Document Information
File Type PostScript File
# of Pages 1
Page Size 419.9 x 296.9 mm
Special Items

Job Properties
Media Name MV-GG : Hi Gloss PVC Gray Glue
Print Quality Standard
Color Settings BNEcoMH_MV-GG_v1440x108...
Color Adjustment Linear (Not Edited)

Scale 100%
# of Copies 1
# of Tiles 1
Mark/Label Enable
Print Area 420.9 x 297.9 mm
Action After Print Save Job

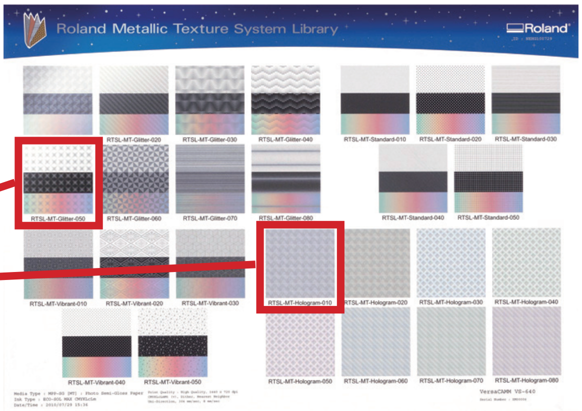
Ink Consumption(Estimat... 0.27

Each color in the color chart has an individual name.
(ex. RTSL-MT-Glitter-050, RTSL-MT-Hologram-010)

【Ex.】

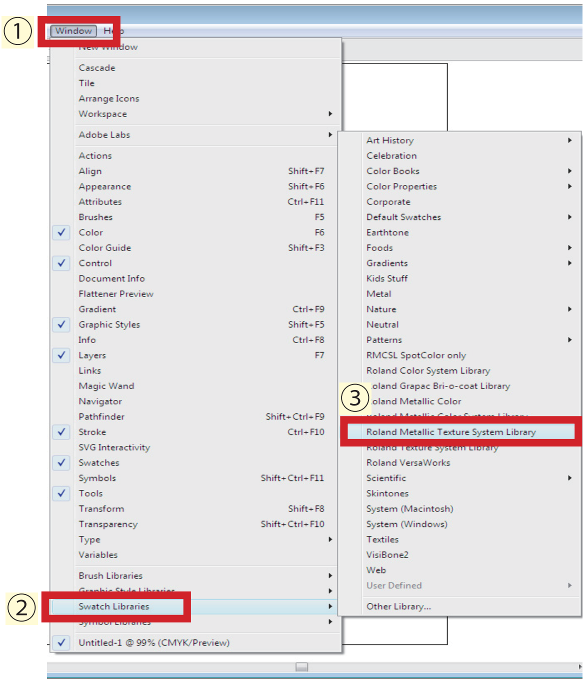
RTSL-MT-Glitter-050

RTSL-MT-Hologram-010

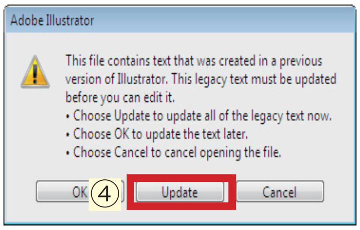

Roland Metallic Texture System Library
Roland
RTSL-MT-Glitter-020
RTSL-MT-Glitter-030
RTSL-MT-Glitter-040
RTSL-MT-Standard-010
RTSL-MT-Standard-020
RTSL-MT-Standard-030
RTSL-MT-Glitter-050
RTSL-MT-Glitter-060
RTSL-MT-Glitter-070
RTSL-MT-Glitter-080
RTSL-MT-Standard-040
RTSL-MT-Standard-050
RTSL-MT-Vibrant-010
RTSL-MT-Vibrant-020
RTSL-MT-Vibrant-030
RTSL-MT-Hologram-010
RTSL-MT-Hologram-020
RTSL-MT-Hologram-030
RTSL-MT-Hologram-040
RTSL-MT-Vibrant-040
RTSL-MT-Vibrant-050
RTSL-MT-Hologram-050
RTSL-MT-Hologram-060
RTSL-MT-Hologram-070
RTSL-MT-Hologram-080
VersaCAMM VS-640

◆ How to crate Metallic texture data

1． Open "Swatch Libraries" for Roland Metallic Texture System Library.
Select [Window] – [Swatch Libraries] – [Roland Metallic Texture System Library] from Illustrator [Menu] bar.


①
Window
Help
New Window
Cascade
Tile
Arrange Icons
Workspace
Adobe Labs
Actions
Align Shift+F7
Appearance Shift+F6
Attributes Ctrl+F11
Brushes F5
Color F6
Color Guide Shift+F3
Control
Document Info
Flattener Preview
Gradient Ctrl+F9
Graphic Styles Shift+F5
Info Ctrl+F8
Layers F7
Links
Magic Wand
Navigator
Pathfinder Shift+Ctrl+F9
Stroke Ctrl+F10
SVG Interactivity
Swatches
Symbols Shift+Ctrl+F11
Tools
Transform Shift+F8
Transparency Shift+Ctrl+F10
Type
Variables
Brush Libraries
Graphic Style Libraries
②
Swatch Libraries
Symbol Libraries
Untitled-1 @ 99% (CMYK/Preview)
Art History
Celebration
Color Books
Color Properties
Corporate
Default Swatches
Earthtone
Foods
Gradients
Kids Stuff
Metal
Nature
Neutral
Patterns
RMCSL SpotColor only
Roland Color System Library
③
oland Grapac Bri-o-coat Library
oland Metallic Color
Roland Metallic Color System Library
Roland Metallic Texture System Library
Roland Texture System Library
Roland VersaWorks
Scientific
Skintones
System (Macintosh)
System (Windows)
Textiles
VisiBone2
Web
User Defined
Other Library...

④ Select "Update" whenever you find the following dialog box.

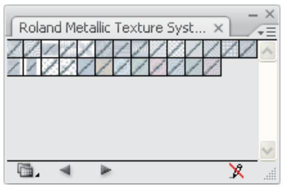


Adobe Illustrator

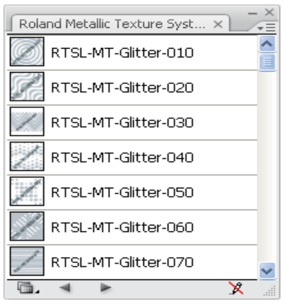
This file contains text that was created in a previous version of Illustrator. This legacy text must be updated before you can edit it.
- Choose Update to update all of the legacy text now.
- Choose OK to update the text later.
- Choose Cancel to cancel opening the file.

OK
④
Update
Cancel

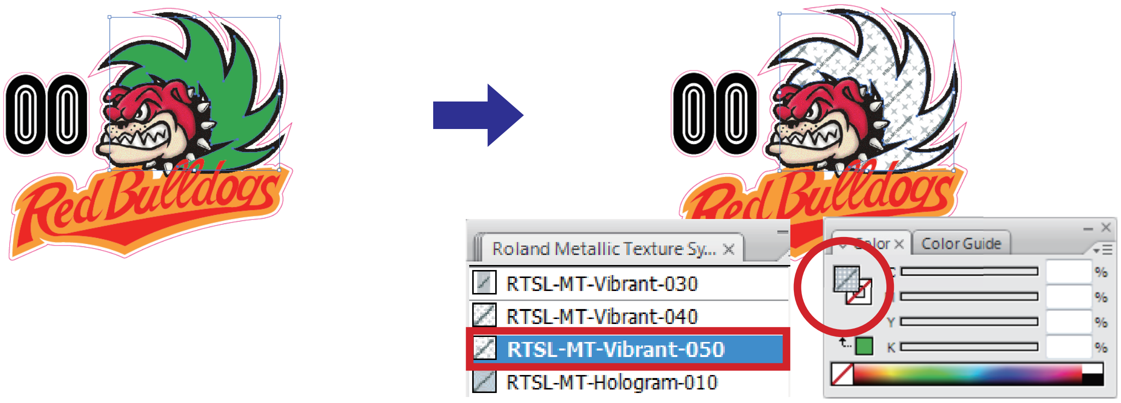
Small Thumbnail View


Roland Metallic Texture Syst...

Small List View


Roland Metallic Texture Syst...
RTSL-MT-Glitter-010
RTSL-MT-Glitter-020
RTSL-MT-Glitter-030
RTSL-MT-Glitter-040
RTSL-MT-Glitter-050
RTSL-MT-Glitter-060
RTSL-MT-Glitter-070

2. Select a desired color from pre-arranged Metallic Texture Chart as you like and apply it (RTSL-MT-**) to the fill of an object.


00
Red Bulldogs
00
Red Bulldogs
Roland Metallic Texture Sy...
RTSL-MT-Vibrant-030
RTSL-MT-Vibrant-040
RTSL-MT-Vibrant-050
RTSL-MT-Hologram-010
Color
Color Guide
C
M
Y
K
%
%
%
%

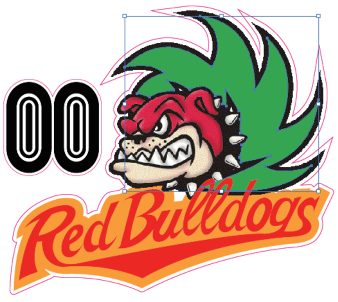
ADVICE

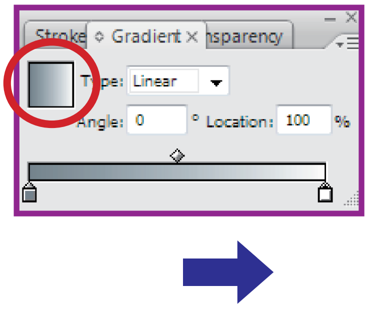
- When applying Roland Metallic Texture System Library to your design, use the original size from graphic data creatoin to file output.
- The texture part is displayed with texure and textere name in Illustrator.

5) Metallic Silver Gradation

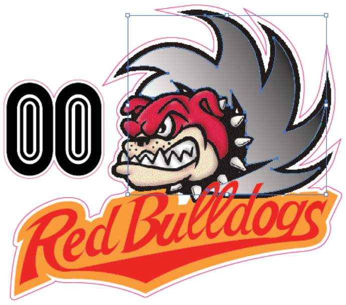
It is possible to create a Metallic Silver Gradation using Metallic color. It can enliven the design of the object with smooth gradation.

1． Select an object, and then apply the gradation to the fill.

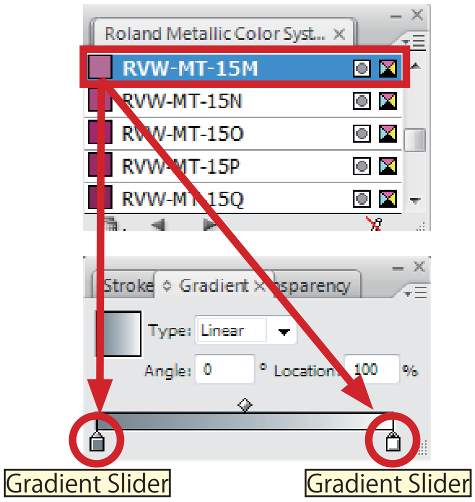

00
Red Bulldogs


Stroke
Gradient
nsparency

Type: Linear
Angle: 0 ° Location: 100 %

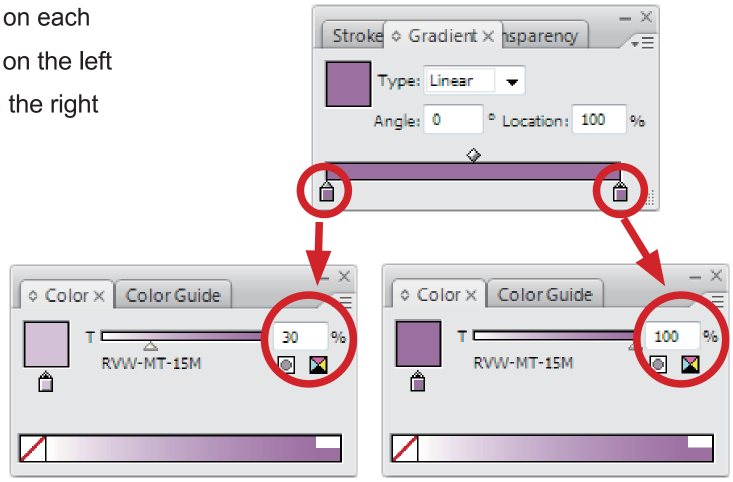

00
Red Bulldogs

2． Change the color for the gradational object. For example, choose "RVW-MT-15M".
Drag & Drop "RVW-MT-15M" from Roland Metallic Color System Library to gradient sliders.
(refer to the illustration)


Roland Metallic Color Syst...
RVW-MT-15M
RVW-MT-15N
RVW-MT-15O
RVW-MT-15P
RVW-MT-15Q
Stroke
Gradient
nsparency
Gradient Slider
Gradient Slider

Type: Linear
Angle: 0 ° Location: 100 %

3． Change the percentage of color on each gradient slider. (gradient slider on the left side >> 30%, gradient slider on the right side >> 100%)

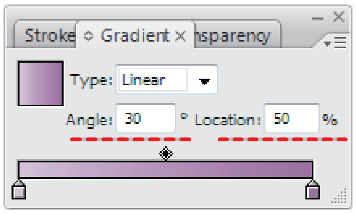

Stroke
Gradient
nsparency
Color
Color Guide
Color
Color Guide

Type: Linear
Angle: 0 ° Location: 100 %

T 30 %
RVW-MT-15M

T 100 %
RVW-MT-15M

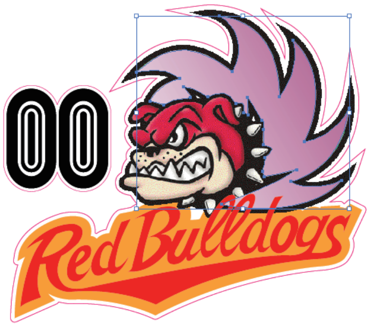
4． Adjust the angle and location.



Type: Linear

Angle: 30 °

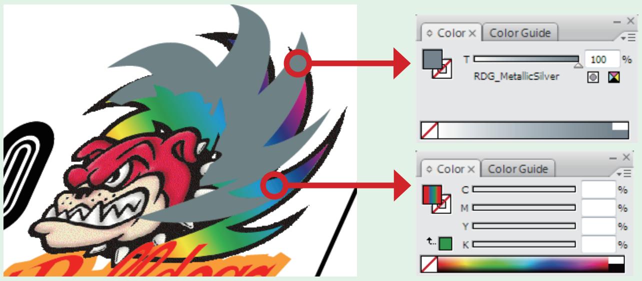
Location: 50 %



ADVICE

The effect of metallic gradation is limited in an uniform color. If you like to create multi-color metallic gradation, overlap “RDG_MetallicSilver” on process color's gradation.

(refer to "Original Metallic Color" of the page 8.)



In order to use [RDG_MetallicSilver], [CutContour], [Roland Metallic Color System Library] and [Roland Metallic Texture System Library], it is necessary to first register them in Adobe Illustrator’s Swatch Library. There are the above swatch library files in the [C:Program Files\Roland VersaWorks\Swatch\Illustrator] directory of your PC on which VersaWorks has been installed.

Copy thse files into the [Swatches] (or [Swatch Libraries]) folder of the Adobe Illustrator, and you can use them in the Adobe Illustrator.

Swatch libraries you can use on BN-20 are

- Roland VersaWorks
- Roland Metallic Color System Library
- Roland Metallic Texture System library

Swatch library file of [Roland Color System Library] on BN-20 is located at
C:\Program Files\Roland VersaWorks\Swatch\Illustrator

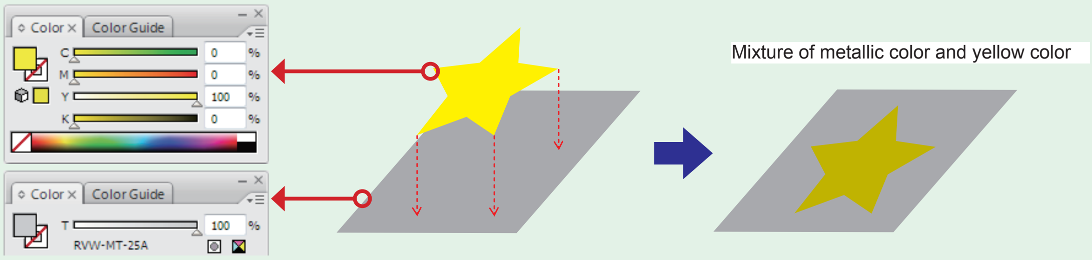
Copy destination folders of swatch library file at Illustrator:

• Illustrator 10	C:\Program Files\Adobe\Illustrator 10.0.3\Presets\Swatches
• Illustrator CS	C:\Program Files\Adobe\Illustrator CS\Presets\Swatches
• Illustrator CS2	C:\Program Files\Adobe\Adobe Illustrator CS2\Presets\Swatches
• Illustrator CS3	C:\Program Files\Adobe\Adobe Illustrator CS3\Presets\Swatches
• Illustrator CS4	C:\Program Files\Adobe\Adobe Illustrator CS4\Presets\en_US\Swatches
• Illustrator CS5	C:\Program Files\Adobe\Adobe Illustrator CS5\Presets\en_US\Swatches

**[Roland Metallic System Library] is available for Illustrator CS and new version

ADVICE

When an object which Metallic Color is applied to laps over the process color's object (regardless of object's position), the metallic color and the process color are mixed and printed.
（refer to Original Metallic Color of the page 8）

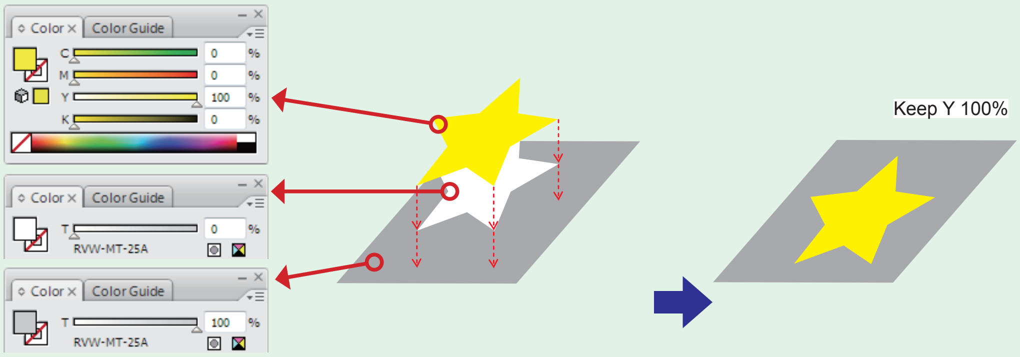

Color Color Guide
C 0 %
M 0 %
Y 100 %
K 0 %

Color Color Guide
T 100 %
RVW-MT-25A

Mixture of metallic color and yellow color

If you would like to output the process color (Y:100) of the foremost object（“ ★ ” : Yellow star）without being affected by teh metallic color, create your data as bellows:

A) Underlay the same shape of object which [RVW-MT-** 0%] is applied to behind the foremost object (“ ★ ”: Yellow star).

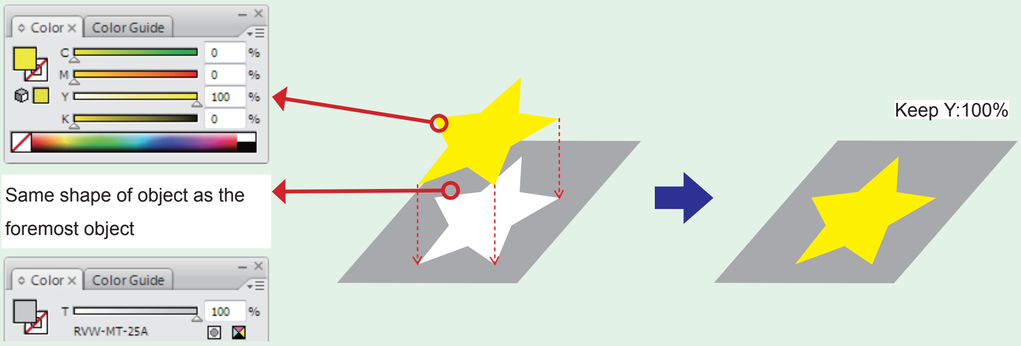

Color Color Guide
C 0 %
M 0 %
Y 100 %
K 0 %

Color Color Guide
T 0 %
RVW-MT-25A

Color Color Guide
T 100 %
RVW-MT-25A

Keep Y 100%

B) Cut out the rear object colored with [RVW-MT-25A] in the form of the foremost object (“ ★ ”: Yellow star).


Color Color Guide
C 0 %
M 0 %
Y 100 %
K 0 %

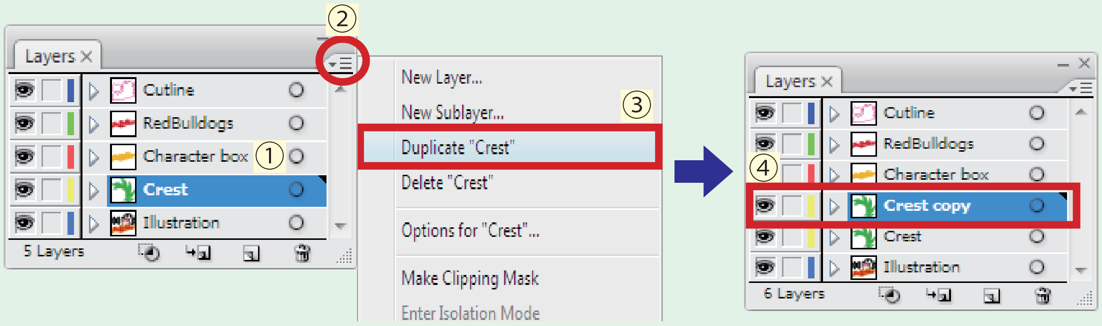
Same shape of object as the foremost object

Color Color Guide
T 100 %
RVW-MT-25A

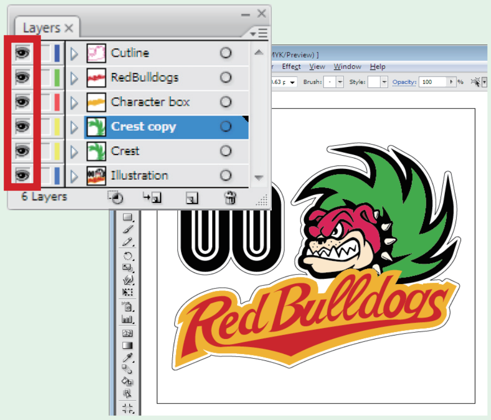
Keep Y:100%

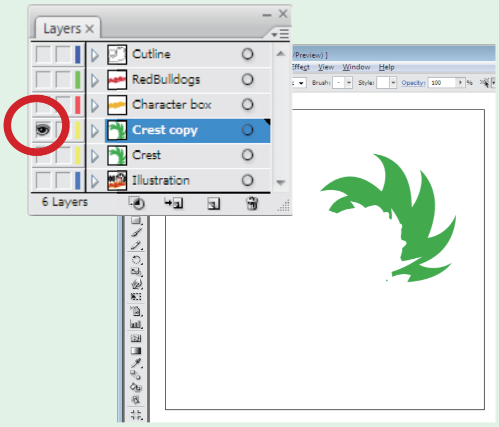
When you create metallic graphic data, it is very useful for you to do it with lalyer funciton of Adobe Illustrator. For example, let's try to create the graphic data with "Original Metallic Color" using "Crest of Line".

① Select "Crest" from layer panel.
② Click the option at the upper right of the panel.
③ Select Duplicate 'Crest'.
④ [Crest copy] is created.


②
Layers
Cutline
RedBulldogs
Character box ①
Crest
Illustration
5 Layers
New Layer...
New Sublayer... ③
Duplicate "Crest"
Delete "Crest"
Options for "Crest"...
Make Clipping Mask
Enter Isolation Mode
Layers
Cutline
RedBulldogs
④ Character box
Crest copy
Crest
Illustration
6 Layers

You can show only the target layer and edit it.


Layers
Cutline
RedBulldogs
Character box
Crest copy
Crest
Illustration
6 Layers
Red Bulldogs


Layers
Cutline
RedBulldogs
Character box
Crest copy
Crest
Illustration
6 Layers

2 Printing from Application

Output data from Illustrator to Roland VersaWorks

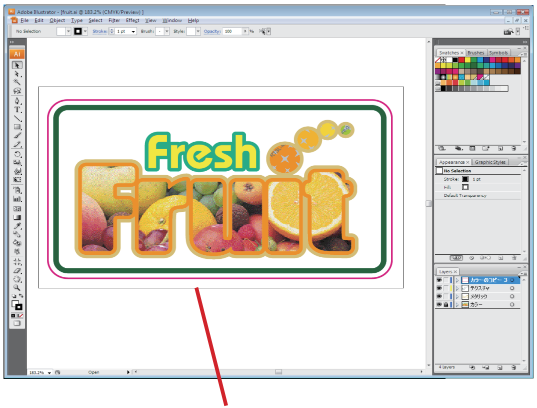
When printing out the data from Illustrator to Roland VersaWorks, there are two types of data output as bellow:

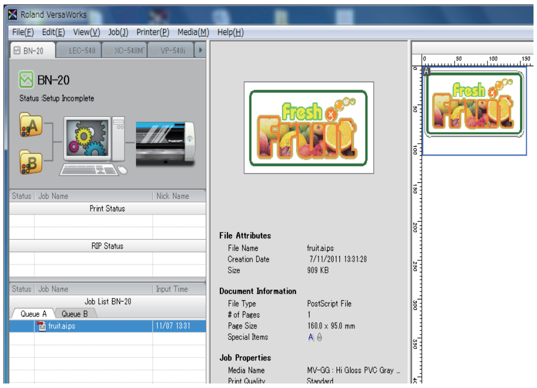
1. Output data using a print driver (PS driver)
2. Output data creating an EPS file

There are no differences with regard to print quality, but there are differences on printable area and file size. The procedures and differences are described below.

A: How to output data using a Printer Driver (PS Driver)

The size of Artboard is the printable area.




Roland VersaWorks
BN-20
Status :Setup Incomplete
Print Status
RIP Status
Job List BN-20
Queue A
Queue B
fruit.aips

File Attributes
File Name fruit.aips
Creation Date 7/11/2011 13:31:28
Size 909 KB

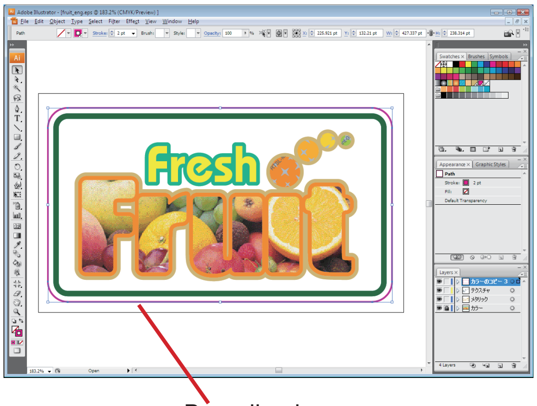
Document Information
File Type PostScript File
# of Pages 1
Page Size 160.0 x 95.0 mm
Special Items

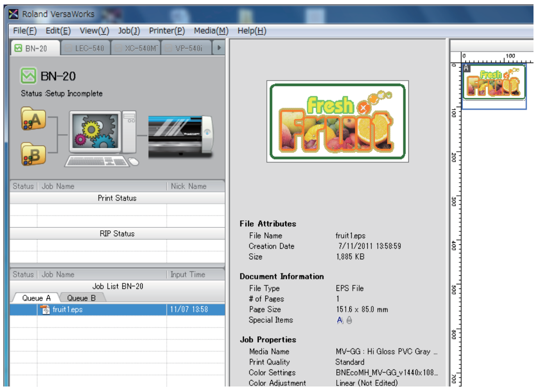
Job Properties
Media Name MV-GG : Hi Gloss PVC Gray ...
Print Quality Standard

Printable area = Artboard
File size - 907 KB

B: How to output data creating an EPS File from Illustrator

The size of Bounding box is the printable area.


Bounding box


Roland VersaWorks
BN-20
Status :Setup Incomplete
Print Status
RIP Status
Job List BN-20
Queue A
Queue B
fruit1.eps

File Attributes
File Name fruit1.eps
Creation Date 7/11/2011 13:58:59
Size 1,885 KB

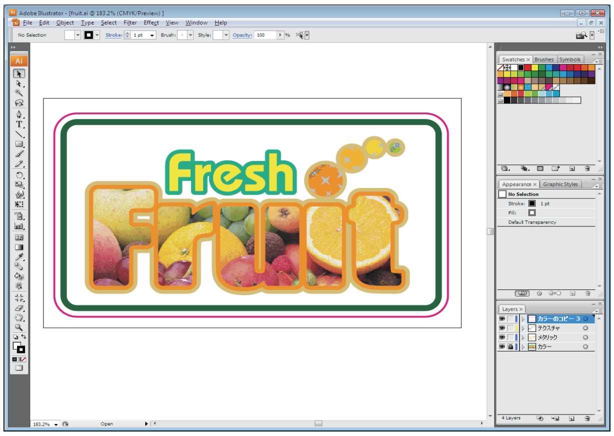
Document Information
File Type EPS File
# of Pages 1
Page Size 151.6 x 85.0 mm
Special Items

Job Properties
Media Name MV-GG : Hi Gloss PVC Gray ...
Print Quality Standard
Color Settings BNEcoMH_MV-GG_v1440x108...
Color Adjustment Linear (Not Edited)

Printable area = Bounding box
File size - 76 KB

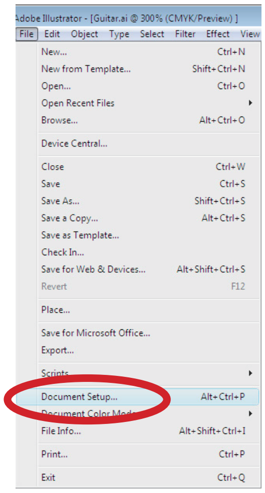
A: Output data Using a Printer Driver (PS Driver)

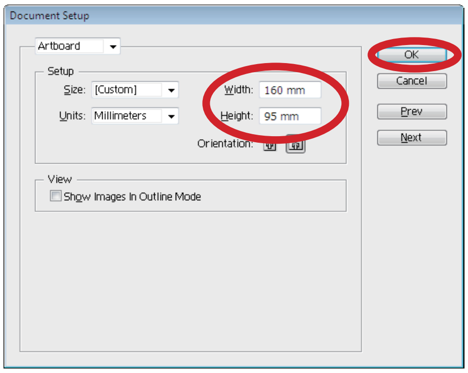
① Open a file.


Adobe Illustrator - [fruit.ai @ 183.2% (CMYK/Preview)]
Fresh
fruit

② Click [Document Setup] from [File] menu.

Check that the width is 160 mm and the height is 95 mm, and then click [OK].


Adobe Illustrator - [Guitar.ai @ 300% (CMYK/Preview)]
File Edit Object Type Select Filter Effect View
New... Ctrl+N
New from Template... Shift+Ctrl+N
Open... Ctrl+O
Open Recent Files
Browse... Alt+Ctrl+O
Device Central...
Close Ctrl+W
Save Ctrl+S
Save As... Shift+Ctrl+S
Save a Copy... Alt+Ctrl+S
Save as Template...
Check In...
Save for Web & Devices... Alt+Shift+Ctrl+S
Revert F12
Place...
Save for Microsoft Office...
Export...
Scripts
Document Setup... Alt+Ctrl+P
Document Color Mode
File Info... Alt+Shift+Ctrl+I
Print... Ctrl+P
Exit Ctrl+Q



Document Setup

Artboard

Setup

Size: [Custom]

Units: Millimeters

Width: 160 mm

Height: 95 mm

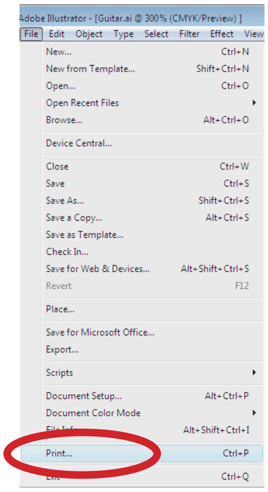
Orientation:

View

☐ Show Images In Outline Mode

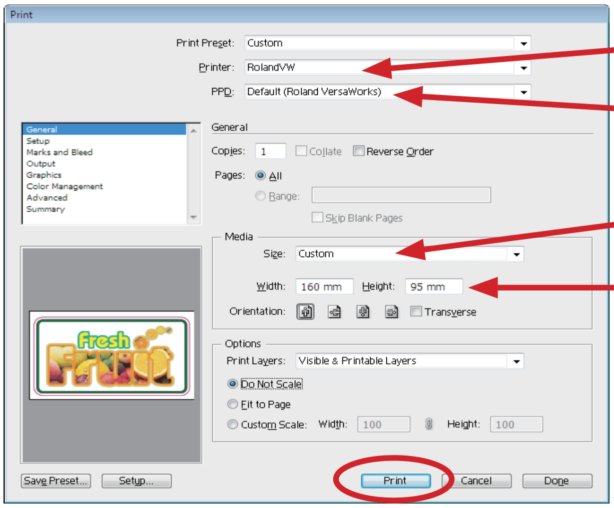
OK
Cancel
Prev
Next

③ Click [Print] on [File] menu to configure print settings.


Adobe Illustrator - [Guitar.ai @ 300% (CMYK/Preview)]
File
Edit
Object
Type
Select
Filter
Effect
View
New... Ctrl+N
New from Template... Shift+Ctrl+N
Open... Ctrl+O
Open Recent Files
Browse... Alt+Ctrl+O
Device Central...
Close Ctrl+W
Save Ctrl+S
Save As... Shift+Ctrl+S
Save a Copy... Alt+Ctrl+S
Save as Template...
Check In...
Save for Web & Devices... Alt+Shift+Ctrl+S
Revert F12
Place...
Save for Microsoft Office...
Export...
Scripts
Document Setup... Alt+Ctrl+P
Document Color Mode
File Info... Alt+Shift+Ctrl+I
Print... Ctrl+P
Exit Ctrl+Q

④ Configure the print settings as shown bellow.

Click [Print] to transfer the printing data to Roland VersaWorks.


Print
General
Setup
Marks and Bleed
Output
Graphics
Color Management
Advanced
Summary
Save Preset...
Setup...
Print
Cancel
Done

Print Preset: Custom

Printer: RolandVW

PPD: Default (Roland VersaWorks)

General

Copies: 1 ☐ Collate ☐ Reverse Order

Pages: ● All ○ Range:

☐ Skip Blank Pages

Media

Size: Custom

Width: 160 mm Height: 95 mm

Orientation: ☐ Transverse

Options

Print Layers: Visible & Printable Layers

● Do Not Scale

○ Fit to Page

○ Custom Scale: Width: 100 Height: 100

Printer = RolandVW

PPD ＝ Default (Roland VersaWorks)

Size = Custom

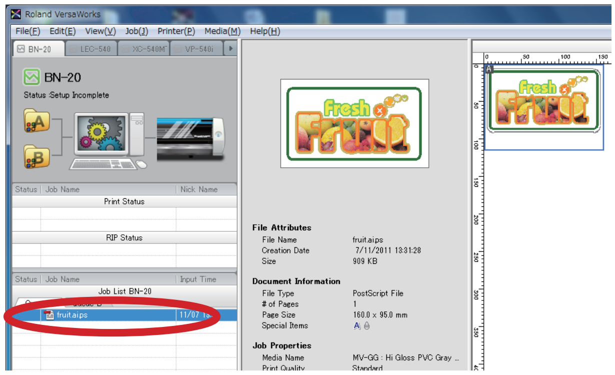
Width = 160 mm, Height = 95 mm

Note:

The data is just transferred to

Roland VersaWorks and not printed yet.

⑤ The data is loaded into the Job List of Roland VersaWorks.


Roland VersaWorks
File(F)
Edit(E)
View(V)
Job(J)
Printer(P)
Media(M)
Help(H)
BN-20
LEC-540
XC-540MT
VP-540i
Status
Job Name
Nick Name
Print Status
RIP Status
Input Time
Job List BN-20
fruit.aips
11/07 13..
0
50
100
150
200
250
300
350

BN-20

Status :Setup Incomplete

File Attributes

File Name fruit.aips

Creation Date 7/11/2011 13:31:28

Size 909 KB

Document Information

File Type PostScript File

# of Pages 1

Page Size 160.0 x 95.0 mm

Special Items

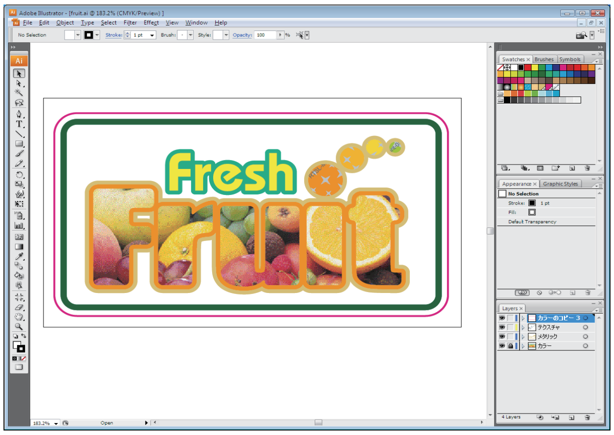
Job Properties

Media Name MV-GG : Hi Gloss PVC Gray ...

Print Quality Standard

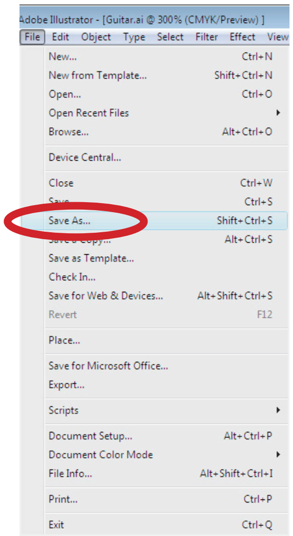
B: Output data Creating an EPS File from Illustrator

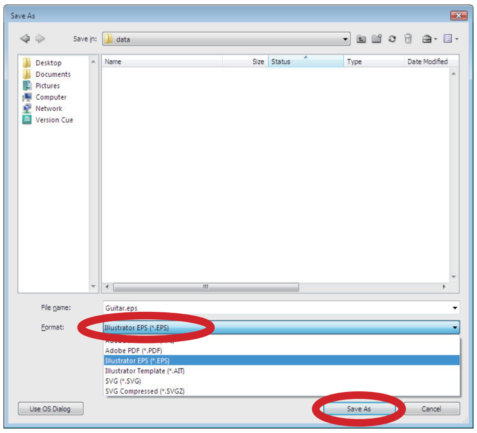
① Open the file (file name: XXXX.ai).


Adobe Illustrator - [fruit.ai @ 183.2% (CMYK/Preview)]
File Edit Object Type Select Filter Effect View Window Help
Fresh
Fruit
Swatches
Brushes
Symbols
Appearance
Graphic Styles
Layers

② Click [Save As] on [File] menu.

Select the [Illustrator EPS] file format and click [Save As] button.


Adobe Illustrator - [Guitar.ai @ 300% (CMYK/Preview)]
File Edit Object Type Select Filter Effect View
New... Ctrl+N
New from Template... Shift+Ctrl+N
Open... Ctrl+O
Open Recent Files
Browse... Alt+Ctrl+O
Device Central...
Close Ctrl+W
Save Ctrl+S
Save As... Shift+Ctrl+S
Save a Copy... Alt+Ctrl+S
Save as Template...
Check In...
Save for Web & Devices... Alt+Shift+Ctrl+S
Revert F12
Place...
Save for Microsoft Office...
Export...
Scripts
Document Setup... Alt+Ctrl+P
Document Color Mode
File Info... Alt+Shift+Ctrl+I
Print... Ctrl+P
Exit Ctrl+Q

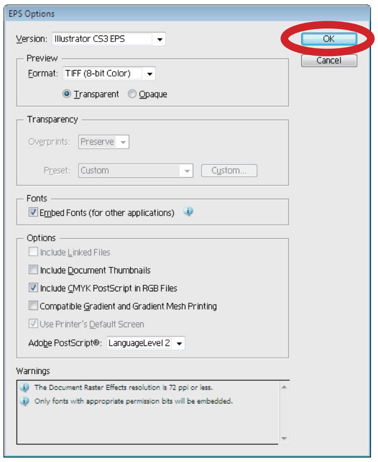

Save As
Desktop
Documents
Pictures
Computer
Network
Version Cue
Name
Size
Status
Type
Date Modified
Adobe PDF (*.PDF)
Illustrator EPS (*.EPS)
Illustrator Template (*.AIT)
SVG (*.SVG)
SVG Compressed (*.SVGZ)
Use OS Dialog
Save As
Cancel

Save in: data

File name: Guitar.eps

Format: Illustrator EPS (*.EPS)

Click [OK].


EPS Options
OK
Cancel
Custom...

Version: Illustrator CS3 EPS

Preview

Format: TIFF (8-bit Color)

● Transparent ○ Opaque

Transparency

Overprints: Preserve

Preset: Custom

Fonts

☑ Embed Fonts (for other applications)

Options

☐ Include Linked Files

☐ Include Document Thumbnails

☑ Include CMYK PostScript in RGB Files

☐ Compatible Gradient and Gradient Mesh Printing

☑ Use Printer's Default Screen

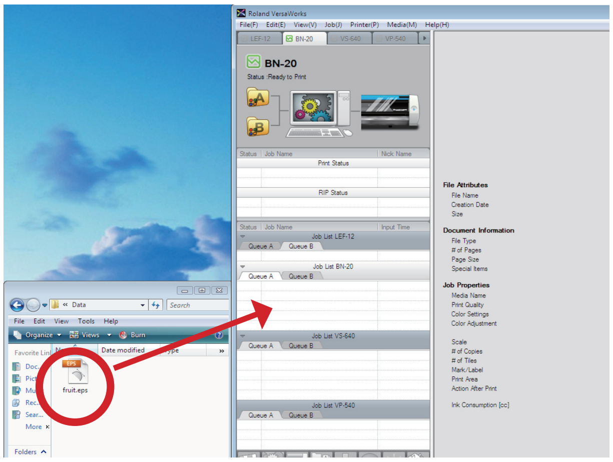
Adobe PostScript®: LanguageLevel 2

Warnings

The Document Raster Effects resolution is 72 ppi or less.

Only fonts with appropriate permission bits will be embedded.

③ Drag and drop the EPS file into the Job List in Roland VersaWorks to load the file.


Roland VersaWorks
File(F) Edit(E) View(V) Job(J) Printer(P) Media(M) Help(H)
LEF-12
BN-20
VS-640
VP-540
BN-20
Status :Ready to Print
Status
Job Name
Nick Name
Print Status
RIP Status
Input Time
Job List LEF-12
Queue A
Queue B
Job List BN-20
Job List VS-640
Job List VP-540
File Attributes
File Name
Creation Date
Size
Document Information
File Type
# of Pages
Page Size
Special Items
Job Properties
Media Name
Print Quality
Color Settings
Color Adjustment
Scale
# of Copies
# of Tiles
Mark/Label
Print Area
Action After Print
Ink Consumption [cc]
Data
Search
File Edit View Tools Help
Organize
Views
Burn
Date modified
Type
fruit.eps
Folders

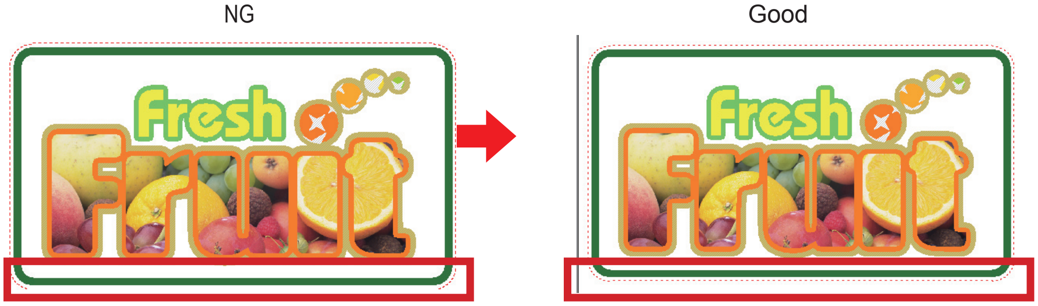
Setting the Margin

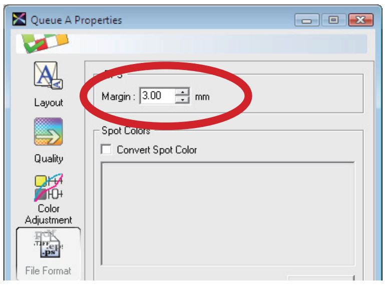
When an image data is saved as EPS format in Illustrator, parts of objects such as cut lines may not be able to be output accurately. In order not to have such a case, configure the margin as shown bellow.

[A/B Queue Properties] → [File Format] → [EPS Settings]

Enter a margin value of 0.35m and more.

Note : When the image data is scaled (expanded or reduced), the margin of the data is also expanded or reduced.


NG
Good
Fresh
Fruit


Queue A Properties
Layout
Quality
Color Adjustment
File Format
Spot Colors

Margin : 3.00 mm

☐ Convert Spot Color

When Outputting an Image Data with Illustrator 10.0 or later...

Roland VersaWorks features the latest version of the CPSI engine, providing maximum compatibility with the special effects in Illustrator such as [Transparency] and [Blur].
However, when using complex transparency effects, some special settings may be necessary for proper printing.
These effects significantly take time for Ripping process, so we recommend that you perform RIP test in order to check if you can keep enough memory and hard disk space.
Also, when transparency or the following special effects are used, the contour line may be printed instead of being cut.

[Filter] → [Stylize] → [Drop Shadow]
[Effect] → [Stylize] → [Feather]
[Effect] → [Stylize] → [Drop Shadow]
[Effect] → [Stylize] → [Outer Glow]
[Effect] → [Stylize] → [Inner Glow]
[Effect] → [Rasterize] (only when [Background] is set to [Transparent])
[Object] → [Rasterize] (only when [Background] is set to [Transparent])
[Window] → [Transparency] when [Mode] is set to anything other than [Normal]
[Window] → [Transparency] when [Opacity] is set to anything other than [100%]
[Window] → [Transparency] when [Create a opacity maks] is executed

And also, when the [Background] is set to [Transparent] in the [Document Raster Effects Settings] dialog box, If you use the following commands from the [Effects] menu, the contour cut line may be printed as well: [Blur], [Artistic], [Sharpen], [Sketch], [Texture], [Video], [Pixelate], [Brush Strokes], [Stylize], [Distort].

When the contour line is not recognized properly and is printed, change the output settings in Illustrator as described on the following page. This may correct the problem and the contour cut line may be detected properly.

When creating artwork:
① Never use the transparency function against the [Fill] or the [Stroke] on an object that contains the contour cut line.
② Ensure that the [contour line] is on the [very top] layer with all other data underneath it.

ADVICE

Do not apply the transparency effects to an object when you use spot colors including Metallic silver. Otherwise, you may have an unexpected output result.

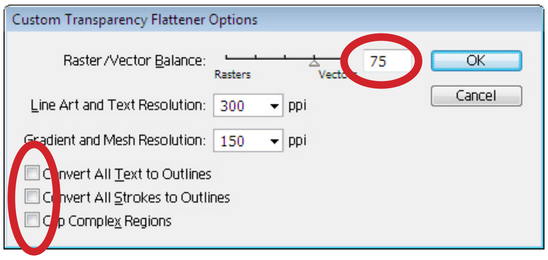
● Output Settings

A. Printing directly from Illustrator

Select [File] → [Print] → [Advanced] → [Custom] (Overprint and Transparency Flattener Options) and uncheck all three check boxes as shown below. In addtion, set the [Raster/Vector Balance] slider to 75.

After checking the above settings, click [OK] and then return to [Print] dialog box.

Click [Print] to send a print file to Roland VersaWorks.



Custom Transparency Flattener Options

Raster/Vector Balance: 75

Line Art and Text Resolution: 300 ppi

Gradient and Mesh Resolution: 150 ppi

☐ Convert All Text to Outlines
☐ Convert All Strokes to Outlines
☐ Clip Complex Regions

B: Printing after Saving as an EPS File

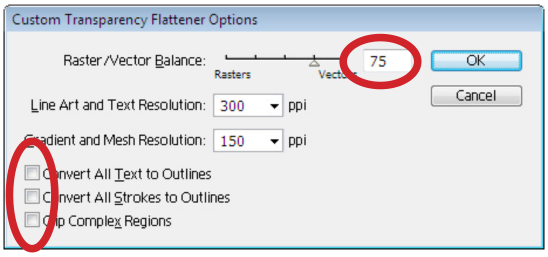
Select [File]→ [Save As], select [Illustrator EPS] in [Format], enter the file name and click [Save AS].

If a warning is displayed, click [Continue].

In the [EPS Options] dialog box, click [Custom] in [Transparency] and uncheck all three check boxes as shown below. In addition, set the [Raster/Vector Balance] slider to 75.

After checking the above settings, click [OK] to return to the [EPS Options] dialog box.

Click [OK] to save the EPS file to the designated folder. Load the file into Roland VersaWorks.



Custom Transparency Flattener Options

Raster/Vector Balance: 75

Line Art and Text Resolution: 300 ppi

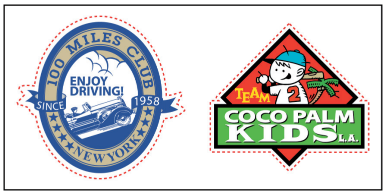
Gradient and Mesh Resolution: 150 ppi

☐ Convert All Text to Outlines
☐ Convert All Strokes to Outlines
☐ Clip Complex Regions

ADVICE

You can confirm if the print and cut data has been correctly recognized by previewing the data in [Job Settings] of Roland VersaWorks. Make sure to check the preview before sending the file to the printer.

If the contour line is displayed as a dashed line as shown below, the line is recognized as cut line.



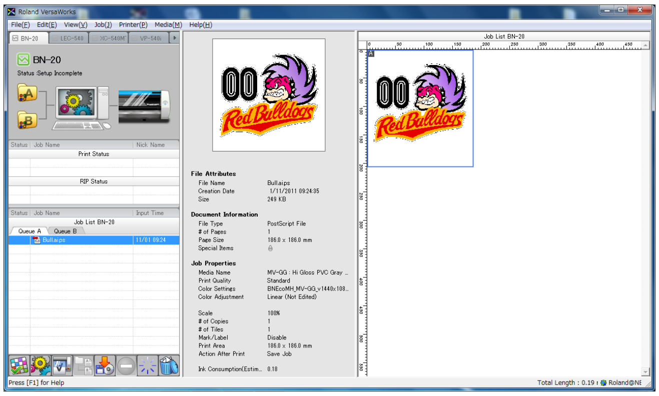
3 Roland VersaWorks Settings

Basics of Roland VersaWorks

1) Starting Roland VersaWorks

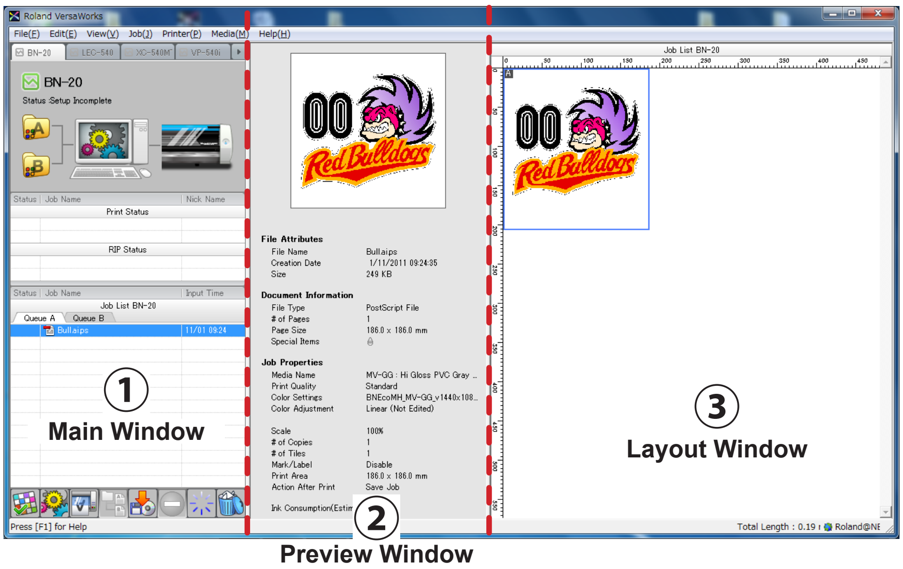
Click an icon to open Roland VersaWorks. The main screen is displayed.

Roland
VersaWorks



2) Main screen

The main screen is divided into three windows as shown below.


Roland VersaWorks
File(F) Edit(E) View(V) Job(J) Printer(P) Media(M) Help(H)
BN-20
LEC-540
XC-540M
VP-540i
BN-20
Status :Setup Incomplete
Status
Job Name
Nick Name
Print Status
RIP Status
Input Time
Job List BN-20
Queue A
Queue B
Bull.aips
11/01 09:24
① Main Window
② Preview Window
③ Layout Window
Press [F1] for Help
Total Length : 0.19 m
Roland@NE

File Attributes

File Name	Bull.aips
Creation Date	1/11/2011 09:24:35
Size	249 KB

Document Information

File Type	PostScript File
# of Pages	1
Page Size	186.0 x 186.0 mm
Special Items	

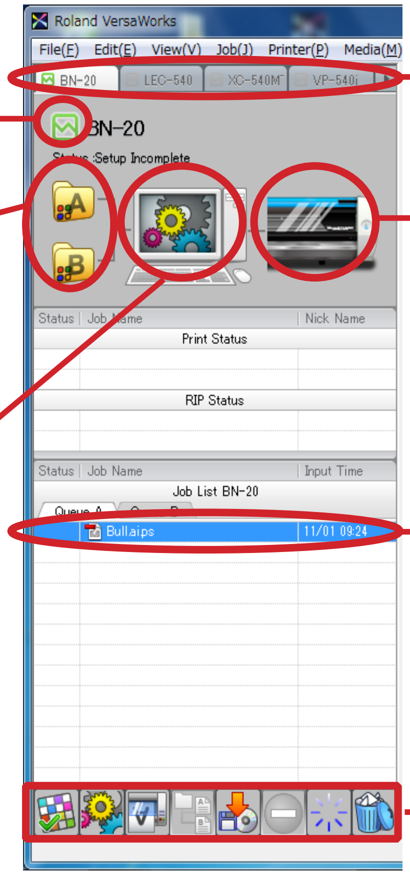
Job Properties

Media Name	MV-GG : Hi Gloss PVC Gray ...
Print Quality	Standard
Color Settings	BNEcoMH_MV-GG_v1440x108...
Color Adjustment	Linear (Not Edited)
Scale	100%
# of Copies	1
# of Tiles	1
Mark/Label	Disable
Print Area	186.0 x 186.0 mm
Action After Print	Save Job

Ink Consumption(Estim

3) Roland VersaWorks settings

You can easily operate Roland VersaWorks by simply clicking the icons and files in the main windows.


Roland VersaWorks
File(F) Edit(E) View(V) Job(J) Printer(P) Media(M)
BN-20
LEC-540
XC-540MT
VP-540i
BN-20
Status :Setup Incomplete
Status
Job Name
Nick Name
Print Status
RIP Status
Input Time
Job List BN-20
Queue A
Queue B
Bullaips
11/01 09:24

Status Display
Indicates a normal connection between the computer and printer

Queue A(B) Properties
Configure default settings of each queue folder

Preferences
Configure settings such as RIP specification, window display format, colorimeter, and internet connection for updates

Multiple Printer Display
A maximum of four printers can be connected

Printer Information
Check the printer information such as the port number and the remaining amount of ink

Job
Data loaded in RIP

Job toolbar
Perform operations such as the printing and RIPing of Job List items

4) Toolbar overview

You can perform basic operations using the following toolbar buttons.
The most commonly used buttons are [Job Settings] and [RIPing and Printing].

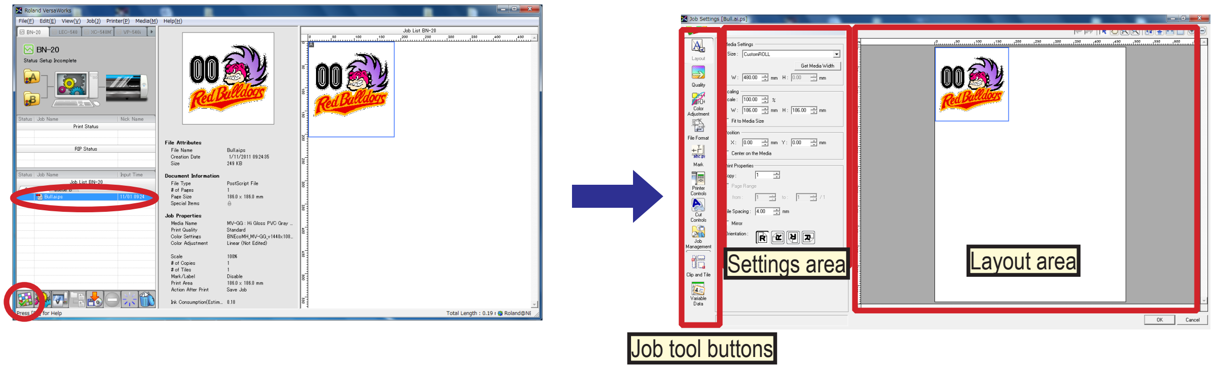
Note: Data loaded into Roland VersaWorks is called a "Job"

Job Settings	= Open the Job Settings window where layout and quality settings can be configured
RIPing	= Perform RIPing for the selected job
RIPing and Printing	= Perform RIPing and printing for the selected job
Job Nesting	= Concatenate a number of jobs into a single job (a nested job)
Print Control/Save File	= Save the selected job as a rvw or prt format file
Cancel RIPing& Printing	= Cancel RIPing, printing, or other processes
Metafile Deletion	= Delete the metafile for the selected job, restoring the job to its original state
Delete Job	= Delete the selected job

5) Job settings screen

Double-click data loaded into the Job List or click the [Job Settings] after selecting the data to open the Job Settings screen.

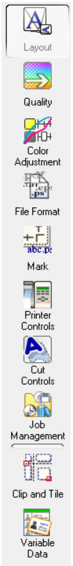
Job Settings Screen


Settings area
Layout area
Job tool buttons

You can configure the following settings using the Job Toolbar.

It is possible to configure the setting easily by using 'Layout' for normal paper sizes and placements, and 'Quality' for printing mode and color settings.

Job Toolbar and Main Functions


Layout
Quality
Color Adjustment
File Format
Mark
Printer Controls
Cut Controls
Job Management
Clip and Tile
Variable Data

Layout = Settings including media settings, scaling, position, number of copies and orientation (rotation)

Quality = Settings including media type, print quality and color management

Color Adjustment = Level adjustment and tone curve adjustment

File Format = Settings for files such as EPS files, spot color and special color settings

Mark = Settings for print details such as job information and crop marks

Printer Controls = Settings for media cutting, feed calibration and heater controls

Cut Controls = Settings for cutting parameters

Job Management = Settings for action after printing and action for incoming jobs

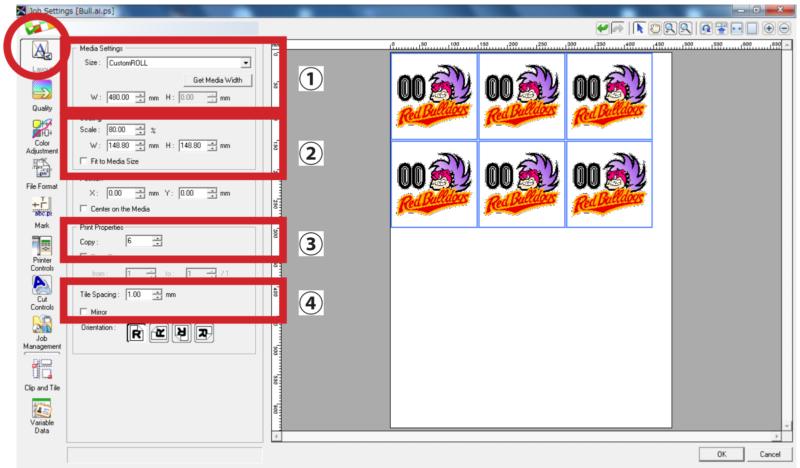
Clip and Tile = Settings for clipping, tiling and overlap

Variable Data = Settings for variable data printing

Job Settings and Printing

1) Layout

Media size, scaling, print position, number of copies and print orientation can be configured.


Job Settings [Bull.ai.ps]

Media Settings
Size : CustomROLL
W : 480.00 mm H : 0.00 mm

Scale : 80.00 %
W : 148.80 mm H : 148.80 mm
☐ Fit to Media Size

X : 0.00 mm Y : 0.00 mm
☐ Center on the Media

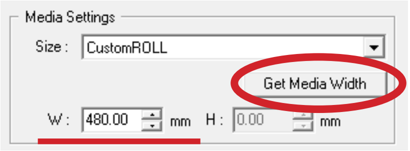
Print Properties
Copy : 6
from : 1 to : 1 / 1

Tile Spacing : 1.00 mm
☐ Mirror
Orientation :

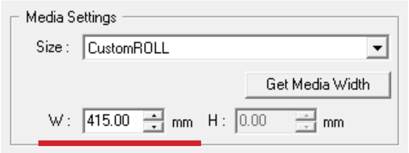
Layout
Quality
Color Adjustment
File Format
Mark
Printer Controls
Cut Controls
Job Management
Clip and Tile
Variable Data
Get Media Width
①
②
③
④
OK
Cancel

① Get Media Width

Click 'Get Media Width' to automatically detect the printable media width.


Media Settings
Size : CustomROLL
W : 480.00 mm H : 0.00 mm

Get Media Width

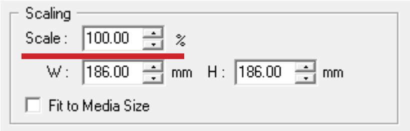

Media Settings
Size : CustomROLL
W : 415.00 mm H : 0.00 mm

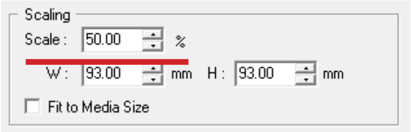
Get Media Width

Media width set at the printer.

② Scaling

Enter scaling values to change the size of data.

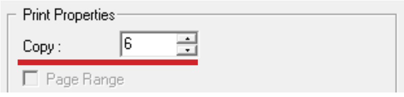

Scaling
Scale : 100.00 %
W : 186.00 mm H : 186.00 mm
☐ Fit to Media Size

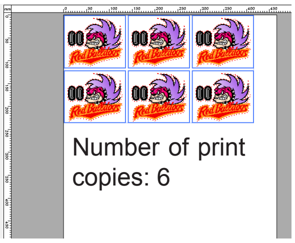

Scaling
Scale : 50.00 %
W : 93.00 mm H : 93.00 mm
☐ Fit to Media Size

Enter the scaling values in [Scale]

③ Number of Copies

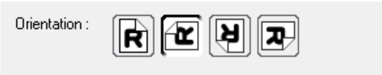
Enter the number of copies to print out

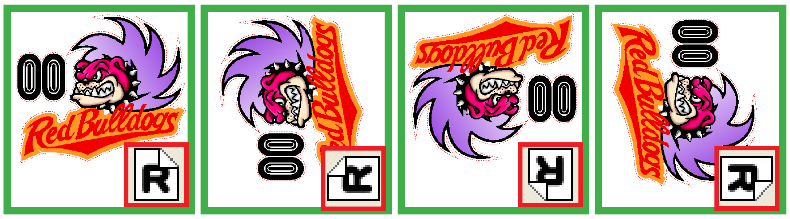

Print Properties
Copy : 6
☐ Page Range


Number of print copies: 6

④ Print Orientation

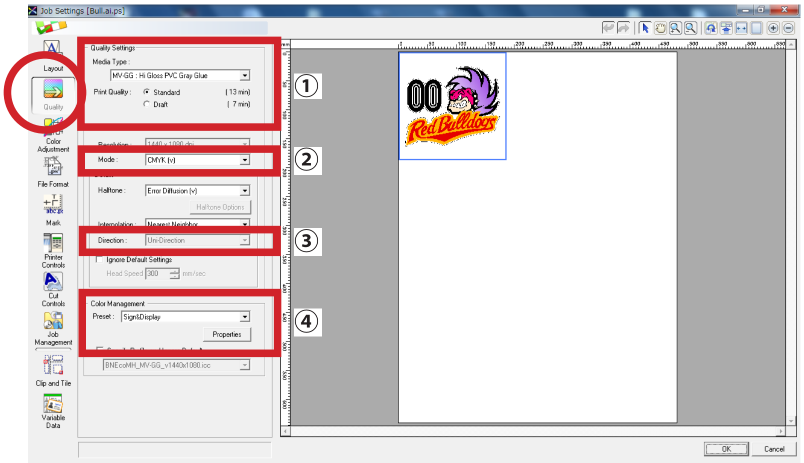
Click the icons of orientation to rotate the data by 90 degrees.


Orientation :


00
Red Bulldogs
R

2） Quality

Settings for media type, print quality and color management


Job Settings [Bull.ai.ps]
Layout
Quality
Color Adjustment
File Format
Mark
Printer Controls
Cut Controls
Job Management
Clip and Tile
Variable Data
①
②
③
④
Halftone Options
Properties
OK
Cancel

Quality Settings

Media Type : MV-GG : Hi Gloss PVC Gray Glue

Print Quality : ● Standard (13 min) ○ Draft (7 min)

Resolution : 1440 x 1080 dpi

Mode : CMYK (v)

Halftone : Error Diffusion (v)

Interpolation : Nearest Neighbor

Direction : Uni-Direction

☐ Ignore Default Settings

Head Speed 300 mm/sec

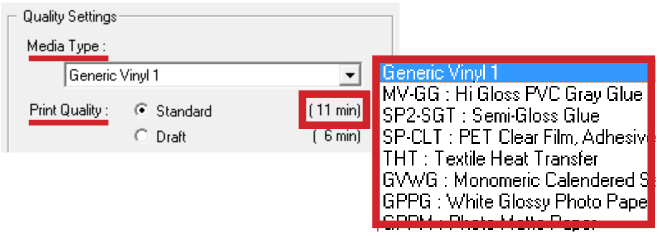
Color Management

Preset : Sign&Display

BNEcoMH_MV-GG_v1440x1080.icc

① Media Type and Print Quality

An optimum media profile suited to the media is set by selecting the media types and print quality you need.


Quality Settings
Media Type :
Generic Vinyl 1
Print Quality :
Generic Vinyl 1
MV-GG : Hi Gloss PVC Gray Glue
SP2-SGT : Semi-Gloss Glue
SP-CLT : PET Clear Film, Adhesiv
THT : Textile Heat Transfer
GVWG : Monomeric Calendered S
GPPG : White Glossy Photo Pape

Print Quality : ● Standard (11 min) ○ Draft (6 min)

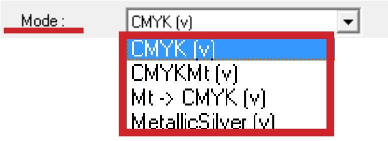
Select [Standard] in "Print Quality".

[Draft] is available for CMYK only.

The estimated time for printing is displayed on each print quality.

② Mode

Select mode you like to use.

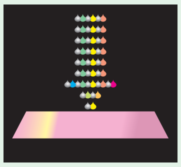

Mode : CMYK (v)

CMYK (v)
CMYKMt (v)
Mt -> CMYK (v)
MetallicSilver (v)

There are 3 types of mode - [CMYKMt], [Mt -> CMYK], [CMYK -> Mt] - on Metallic Silver. Each print mode is different in the way of printing; therefore, the output result is different even though you use the same metallic color.

◆ CMYKMt

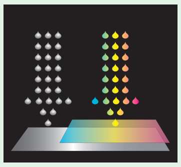
Print both metallic silver and CMYK color at the same time.



◆ Mt->CMYK

Use the front part and the rear part of a head separetely for metallic silver ink and CMYK ink

Print CMYK color after metallic silver.

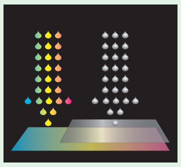


◆ CMYK->Mt

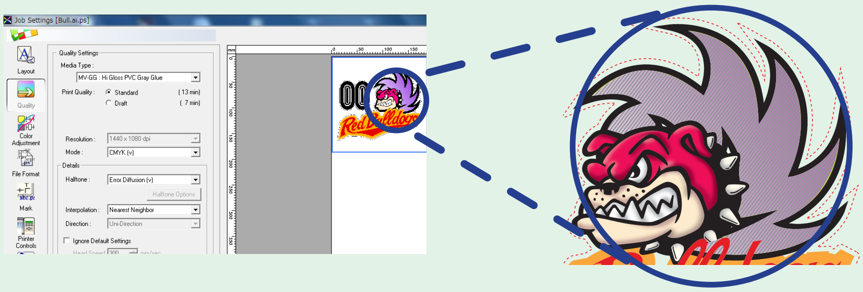
Use the front part and the rear part of a head separetely for metallic silver ink and CMYK ink

Print metallic silver after CMYK color.

* This mode is available only for SP-CLT (PET Clear Film, Adhesive).



When selecting one of 3 types mode (CMYKMt, Mt->CMYK, Metallicsilver), metallic color is displayed on preview window as gray hatched line.


Job Settings [Bull.ai.ps]

Quality Settings

Media Type : MV-GG : Hi Gloss PVC Gray Glue

Print Quality : ● Standard (13 min) ○ Draft (7 min)

Resolution : 1440 x 1080 dpi

Mode : CMYK (v)

Details

Halftone : Error Diffusion (v)

Interpolation : Nearest Neighbor

Direction : Uni-Direction

☐ Ignore Default Settings

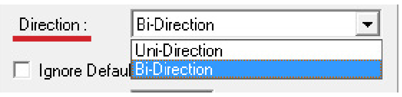
Head Speed 300 mm/sec

Layout
Quality
Color Adjustment
File Format
Mark
Printer Controls
Halftone Options
mm
0
50
100
150
200
250
300
350
Red Bulldogs

③ Print Direction

Accoring to print quality you select, print direction is automatically selected.

If you select [Standard] in "Print Quality", [Uni-Direction] is automatically selected, If you select [Dradt] in "Print Quality", [Bi-Direction] is automatically selected.



Direction : Bi-Direction

☐ Ignore Defaul

Uni-Direction :

Print head perform printing during the outbound pass.

Bi-Direction :

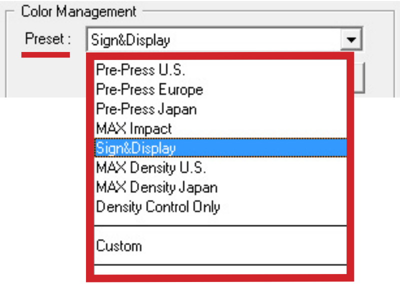
The print head perform printing during both the outbound pass and return pass. (Available for CMYK mode printing only)

④ Color Settings

Select well-suited "Color Settings" for your printing

You can configure the settings of input and output profiles and matching methods to reproduce the colors of the original data as precisely as possible in Rland VersaWorks.

Presets are previously optimum configuration of input profiles and matching methods necessary for color management.



Color Management

Preset : Sign&Display

◆ **Main Presets** ◆

(1) Japan Color:

The standard setting for printed matter produced in most Japanese printing environments.

This preset is suited for color (well known as standard press proofs) in offset printing performed in Japan.

(2) MAX Impact:

This preset is designed for signs and allows for high-intensity output.

For output such as large banners and wall signs, it produces vivid, eye-catching colors and it is possible to produce deep, well contrasted colors by using input profiles with the broadest color gamuts for both RGB data and CMYK data.

(3) Sign & Display:

This preset is based on Japan Color and is designed for the signs.

It is able to produce deep colors when printing image data.

Pure colors of CMYK vectors and text are preserved, and it is able to produce primary colors without having the secondary colors mixed.

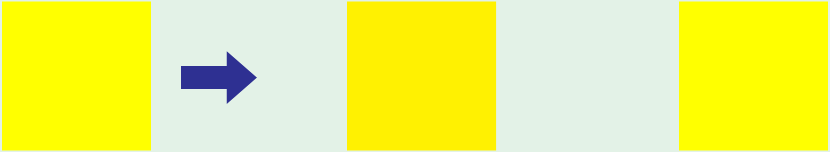
(4) MAX Density Japan:

This preset prints image CMYK vectors and text without color conversion. Primary colors are preserved.

ADVICE

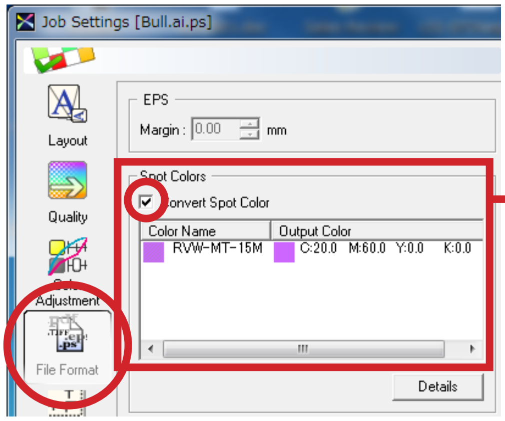
What is Secondary Color?

Even though colors are defined as pure colors such as C100 or Y100 in drawing software like Illustrator, other color inks are mixed with Cyan or Yellow ink due to matching method in the RIP. This other colors are called secondary color.



3) File Format

Congiure "Spot Color".


Job Settings [Bull.ai.ps]
Layout
Quality
Color Adjustment
File Format
Details

EPS

Margin : 0.00 mm

Spot Colors

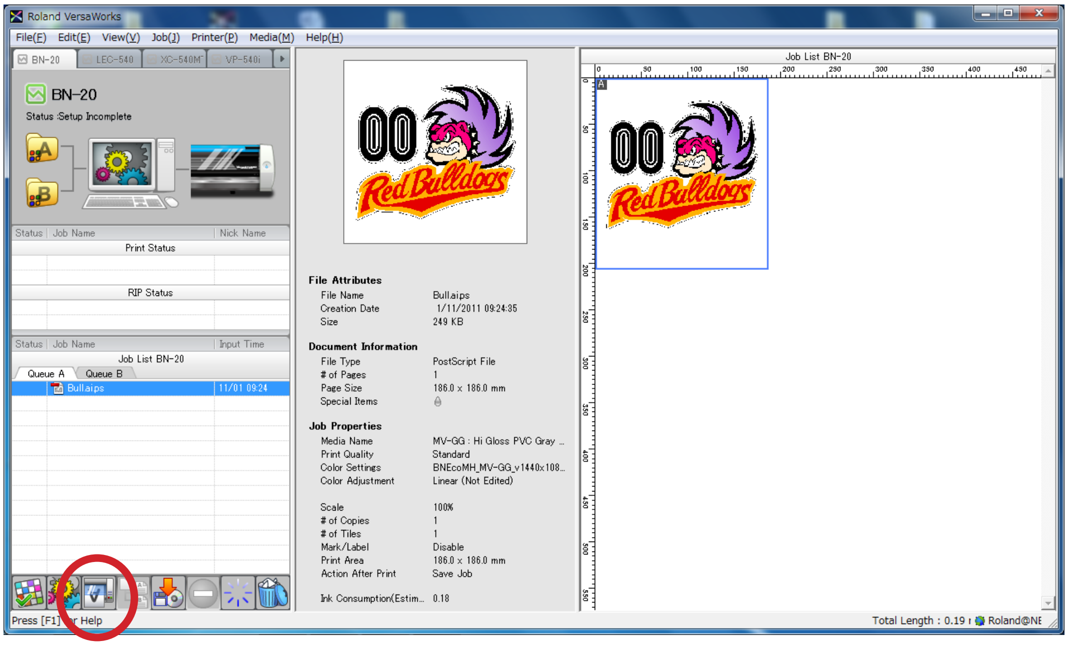
☑ Convert Spot Color

Color Name	Output Color
🟪 RVW-MT-15M	🟪 C:20.0 M:60.0 Y:0.0 K:0.0

Confirm the spot colors you selected in Metallic Color System Library here, and then check the box of [Covert Spot Color].

4) Print

Click [Print] to start printing.


Roland VersaWorks
File(F) Edit(E) View(V) Job(J) Printer(P) Media(M) Help(H)
BN-20
LEC-540
XC-540MT
VP-540i
Print Status
RIP Status
Queue A
Queue B
Job List BN-20
Press [F1] for Help
Total Length : 0.19
Roland@NET

BN-20

Status :Setup Incomplete

Job List BN-20

Status	Job Name	Input Time
	Bullaips	11/01 09:24

File Attributes

File Name	Bullaips
Creation Date	1/11/2011 09:24:35
Size	249 KB

Document Information

File Type	PostScript File
# of Pages	1
Page Size	186.0 x 186.0 mm
Special Items	💧

Job Properties

Media Name	MV-GG : Hi Gloss PVC Gray ...
Print Quality	Standard
Color Settings	BNEcoMH_MV-GG_v1440x108...
Color Adjustment	Linear (Not Edited)
Scale	100%
# of Copies	1
# of Tiles	1
Mark/Label	Disable
Print Area	186.0 x 186.0 mm
Action After Print	Save Job
Ink Consumption(Estim...	0.18

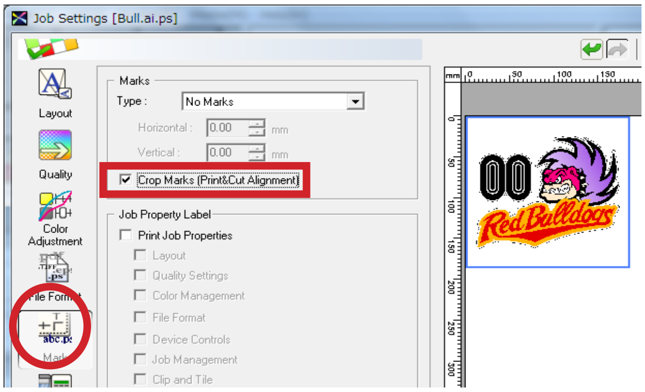
Contour Cutting after Lamination

You can remove the printed media and then reload it and perform contour cutting on BN-20.

For instance, perform lamination or other processing after printing, then reload the media and perform contour cutting.

1. Print with crop marks.

① Open [Job Settings]→[Mark].
Check the box of [Crop marks(Print&Cut Aligment)].



Job Settings [Bull.ai.ps]

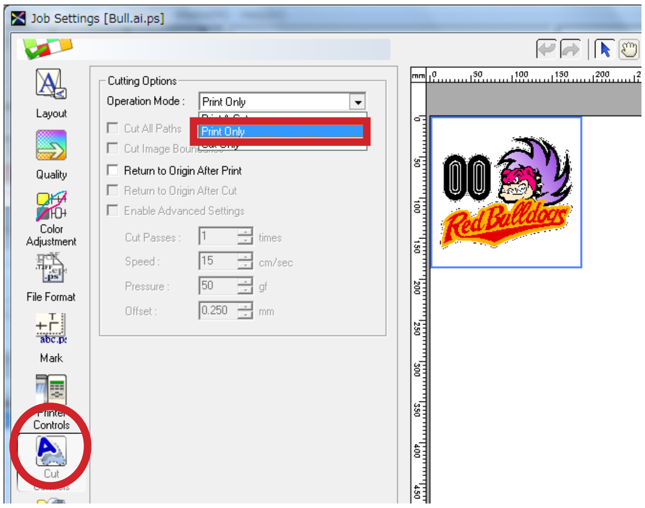
Marks
Type : No Marks
Horizontal : 0.00 mm
Vertical : 0.00 mm
☑ Crop Marks (Print&Cut Alignment)

Job Property Label
☐ Print Job Properties
☐ Layout
☐ Quality Settings
☐ Color Management
☐ File Format
☐ Device Controls
☐ Job Management
☐ Clip and Tile

Layout
Quality
Color Adjustment
File Format
Mark

② Open [Cut Controls] in Job Settings.
Select "Print Only" of [Operation Mode] from [Cutting Options].
Print data is displayed on layout windows.
Coutour cut line (red line) is not displayed.

③ Click [OK] and then select [Print] to output graphic data to BN-20.

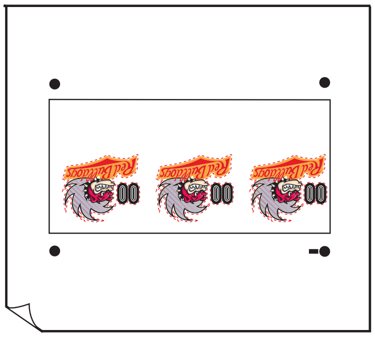


Job Settings [Bull.ai.ps]

Cutting Options
Operation Mode : Print Only
☐ Cut All Paths
☐ Cut Image Boun
☐ Return to Origin After Print
☐ Return to Origin After Cut
☐ Enable Advanced Settings
Cut Passes : 1 times
Speed : 15 cm/sec
Pressure : 50 gf
Offset : 0.250 mm

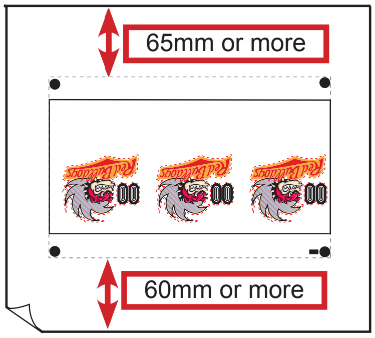
Print Only
Layout
Quality
Color Adjustment
File Format
Mark
Printer Controls
Cut

④ The graphic data with the crop makrs（●）are printed as shown in the figure.



2．Remove the media from BN-20.

① Cut off the media from the BN-20.
Leave 65 mm and more of margin from the edge of the crop marks at the rear side.


65mm or more
60mm or more

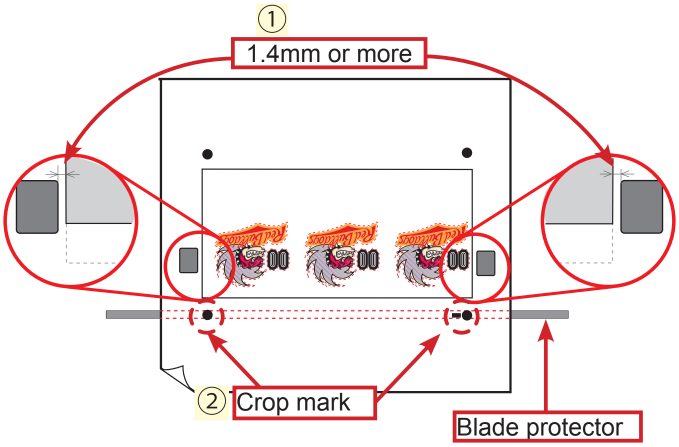
3．Reload the media again.

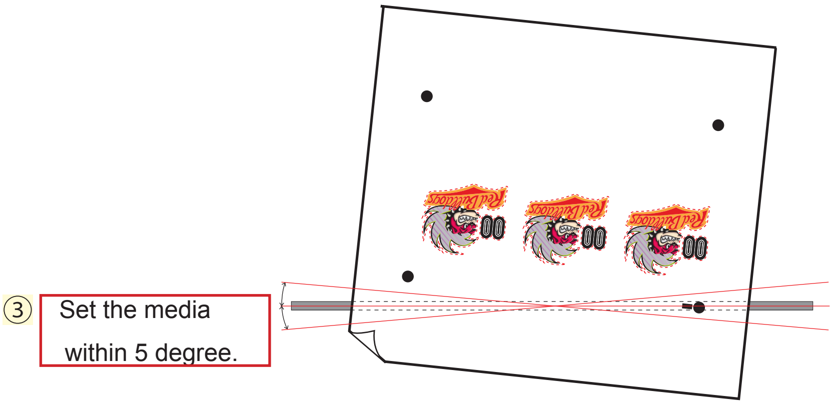
After lamination, reload the meida again as follows

① Set the pinch rollers while keeping 1.4mm and more from the outer line of the crop marks.

② Set 2 front crop markson the blade protector.

③ The alignment of media is no more than 5 degree.


①
1.4mm or more
②
Crop mark
Blade protector

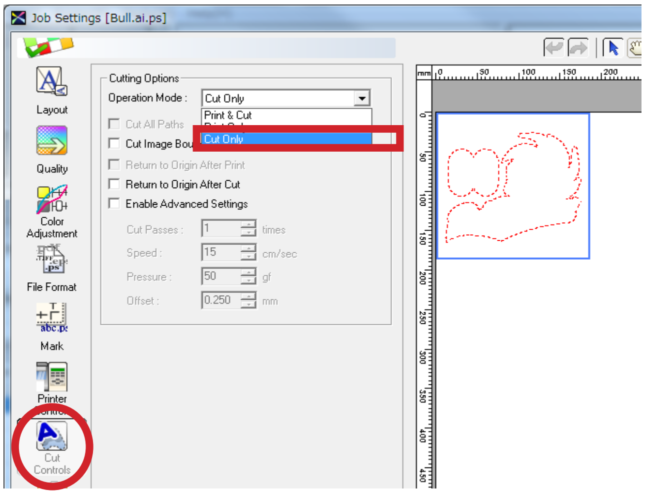

③
Set the media
within 5 degree.

4. Perform Contour Cutting.

① Open [Cut Controls] in Job Settings.

② Select "Cut Only" of [Operation Mode] from [Cutting Options].
The only cut line (red line) is displayed on layout windows.

③ Click [OK] and then select [Print] to output cut line data to BN-20.
BN-20 starts contour cutting after detecting all the crop marks.



Job Settings [Bull.ai.ps]

Cutting Options

Operation Mode : Cut Only

☐ Cut All Paths

☐ Cut Image Bou

☐ Return to Origin After Print

☐ Return to Origin After Cut

☐ Enable Advanced Settings

Cut Passes : 1 times

Speed : 15 cm/sec

Pressure : 50 gf

Offset : 0.250 mm

Print & Cut
Cut Only
Layout
Quality
Color Adjustment
File Format
Mark
Printer
Cut Controls
mm
0
50
100
150
200
250
300
350
400
450

ADVICE

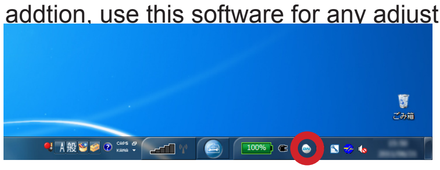
Be sure to perform "Test Cut" before starting contour cutting.
Since the thichness of the media is more thicker due to lamination, you may not be able to cut it with an original setting of blade force and cut speed.

4

BN-20's Utility

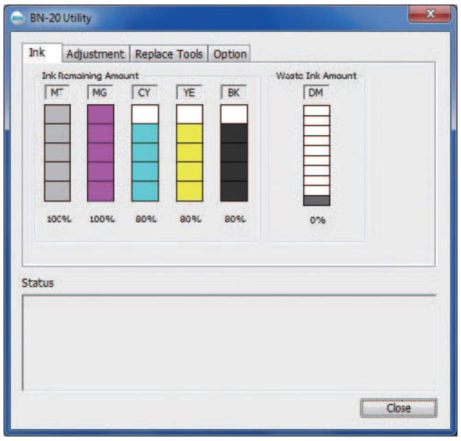
How to Open the Utility Window

Utility is resident software of BN-20. Click the Utility icon on the task tray.
You can use it to check "ink levels", "nozzle clogging" and to replace the cutter blades.
In addtion, use this software for any adjustments and maintenance.



Confirmation of Ink levels

Ink and waste fluid levels can be checked in the Ink tab of the Utility window.

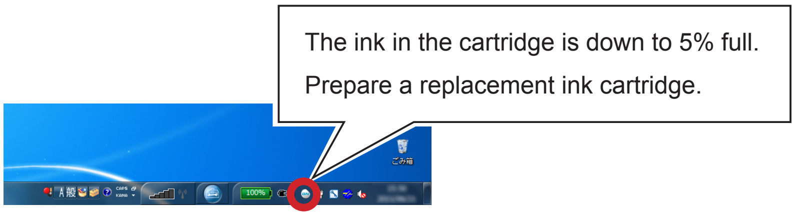

BN-20 Utility
Ink
Adjustment
Replace Tools
Option
Ink Remaining Amount
MT
MG
CY
YE
BK
100%
100%
80%
80%
80%
Waste Ink Amount
DM
0%
Status
Close

A simple bar scale indicates the level of ink in each cartridge.

* Displayed ink levels are estimates and are slightly different from the actual ink levels.

* Percentage values also indicate the level of ink remaining. When the cartridge is removed, [No Cartridge] message is displayed.

When an ink level is low, a message appears on the Utility icon on the task tray. Check which ink is running out with the Utility Software and prepare a relevant cartridge for replacement.



The ink in the cartridge is down to 5% full.
Prepare a replacement ink cartridge.

*A variety of messages are displayed in the Utility window.
Ex. ** Shake the ink cartridge before installing.
Replace the wiper, etc.,
Take necessary action in accordance with the displayed message.

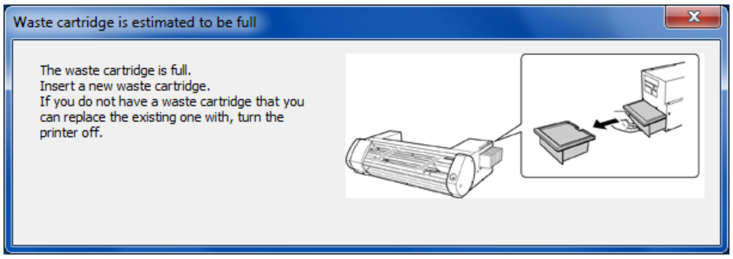
Checking Amount of Waste Fluid

When the waste cartridge is filled with waste fluid, the Utility window automatically opens and displays a message. Follow the instructions

and replace the waste cartridge.

CAUTION

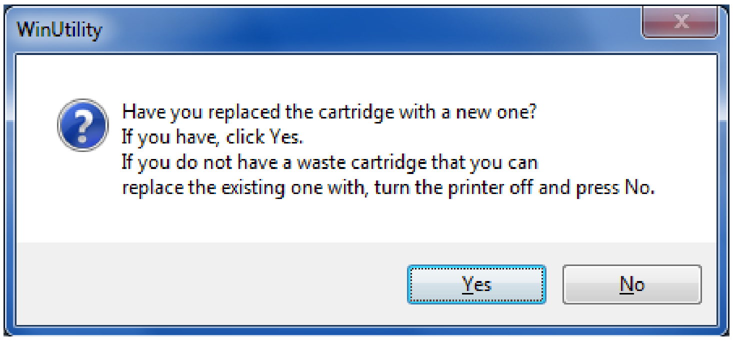
Remove the waste cartridge after the message appears in the Utility window.
If this procedure is not followed, discharged fluid may overflow from the main unit and stain your hands or drip and stain the floor.



Waste cartridge is estimated to be full

The waste cartridge is full.
Insert a new waste cartridge.
If you do not have a waste cartridge that you can replace the existing one with, turn the printer off.

When you replace the cartridge, the following message is displayed. Take necessary action in accordancewith the message



WinUtility

Have you replaced the cartridge with a new one?
If you have, click Yes.
If you do not have a waste cartridge that you can replace the existing one with, turn the printer off and press No.

⚠ **Never use a used waste cartridge. The waste fluid may overflow because the equipment cannot manage it properly. To purchase new cartridge, contact your authorized dealer or Roland DG.**

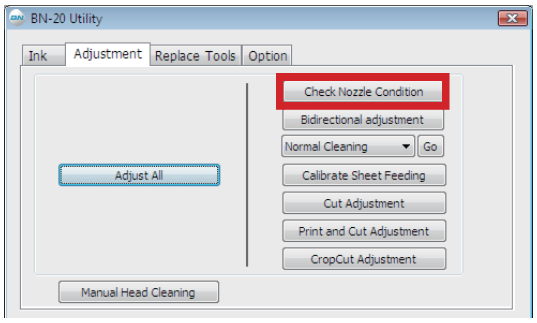
⚠ **Never place discharged fluid cartridge near open flame.**
These fluids are inflammable.

⚠ **Never open the cap of the waste cartridge.**
If the fluid is spilled or vapor escapes, this may cause a fire risk, or the fumes may induce nausea.

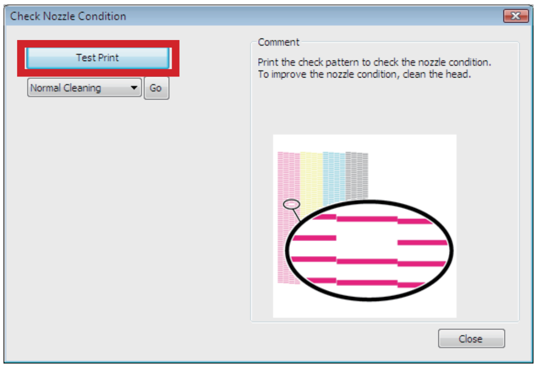
Dispose of discharged fluid properly and in accordance with Health and Safety regulations.
The discharged fluid is inflammable and contains toxic ingredients. Never burn or incinerate, or dispose of the discharged fluid with general waste. Do not empty the discharged fluid into a sewage system, stream or river. There is a risk of environmental impact.

Checking Nozzle Condition / Cleaning Method

Check nozzle condition of print head. If the nozzle is clogged, you will not be able to print correctly.


BN-20 Utility
Ink
Adjustment
Replace Tools
Option
Check Nozzle Condition
Bidirectional adjustment
Normal Cleaning
Go
Adjust All
Calibrate Sheet Feeding
Cut Adjustment
Print and Cut Adjustment
CropCut Adjustment
Manual Head Cleaning

① Click [Adjustment] -> [Check Nozzle Condition].

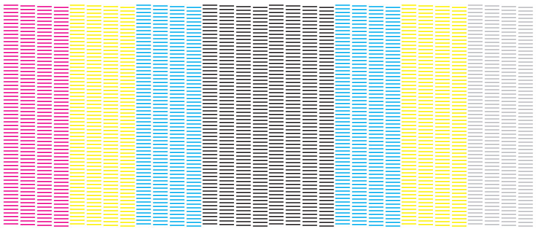

Check Nozzle Condition
Test Print
Normal Cleaning
Go
Comment
Close

Print the check pattern to check the nozzle condition.
To improve the nozzle condition, clean the head.

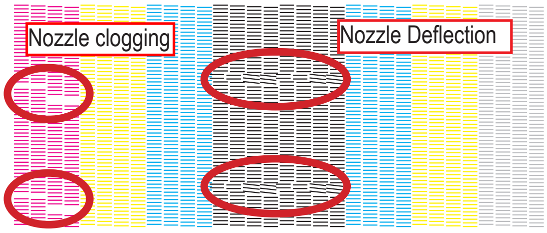
② Click [Test Print].

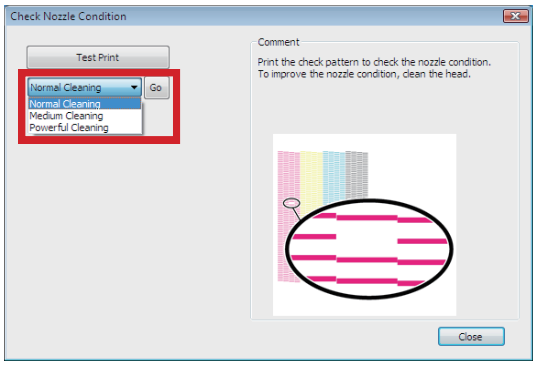
The test pattern is printed.

OK



NG


Nozzle clogging
Nozzle Deflection


Check Nozzle Condition
Test Print
Normal Cleaning
Go
Normal Cleaning
Medium Cleaning
Powerful Cleaning
Comment
Close

Print the check pattern to check the nozzle condition.
To improve the nozzle condition, clean the head.

③ If the nozzle is clogged or deflected, select [Normal Cleaning] and click [Go].

After cleaning, click [Test Print] to check for nozzle condition again.

If the nozzle condition is not fixed by "Nomal Cleaning", try cleaning again.

If the nozzle condition is not fixed by "Nomal Cleaning", perform "Medium Cleaning". If the nozzle condition is still not fixed by "Medium Cleaning", perform "Powerful Cleaning". But "Medium Cleaning" is much more than "Nomal Cleaning" on ink consumption, and "Powful Cleaning" is much more than "Medium Cleaning" on ink consumption.

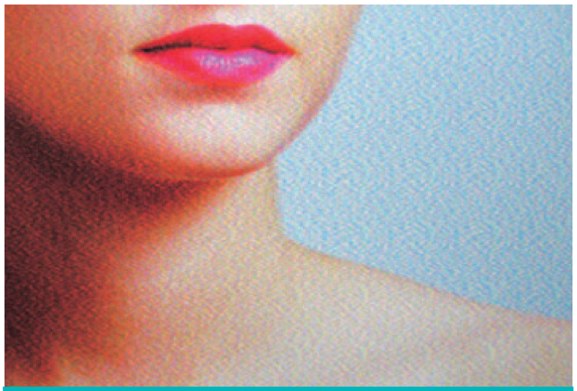
If nozzle condition does not improve after several times of Powerful Cleaning, perform [Manual Head Cleaning].

Perform this level of cleaning periodically in accordance with the frequency of use.

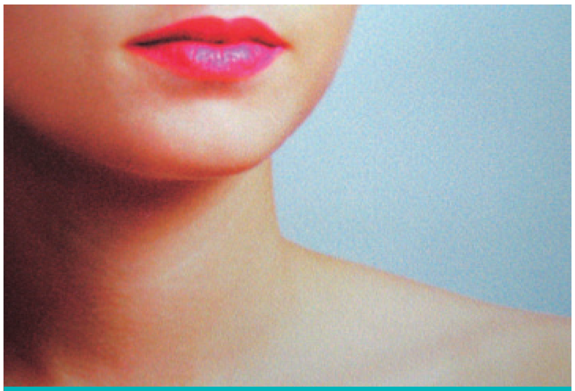
(refer to Manual Head Cleaning on the page 45).

Bidirectional Adjustment

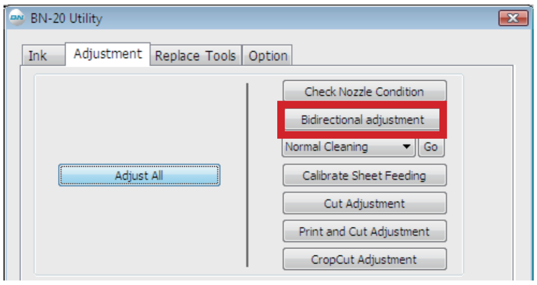
When printing with four colors, Cyan (C), Magenta (M), Yellow (Y), and Black(K), this machine can perform "Bidirectional Printing" which means that the head prints when moving in out and home directions. The bidirectional printing is much faster, but subtle misalignment occurs during the outbound and return passes which reduces image quality.If the bidirectional adjustment is inaccurate, the print quality appears grainy as shown on the photograph below, results in blurred image. The operation to correct these misalignments is called "Bidirectional Adjustment" As this misalignment differs depending on head height and media thickness, it is necessary to perform adjustments for each kindof media.



Bidirectional Adjustment <NG>

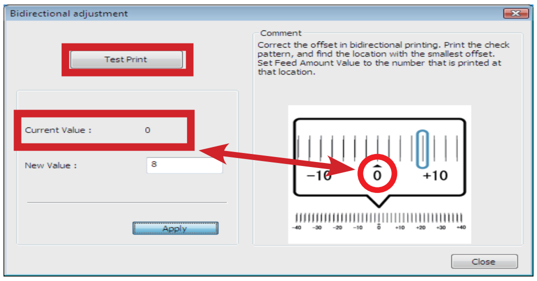


Bidirectional Adjustment <OK>



BN-20 Utility
Ink
Adjustment
Replace Tools
Option
Adjust All
Check Nozzle Condition
Bidirectional adjustment
Normal Cleaning
Go
Calibrate Sheet Feeding
Cut Adjustment
Print and Cut Adjustment
CropCut Adjustment

① Click [Adjustment] -> [Bidirectional adjustment].



Bidirectional adjustment
Test Print
Apply
Close
−10
0
+10
-40
-30
-20
-10
0
+10
+20
+30
+40

Comment
Correct the offset in bidirectional printing. Print the check pattern, and find the location with the smallest offset. Set Feed Amount Value to the number that is printed at that location.

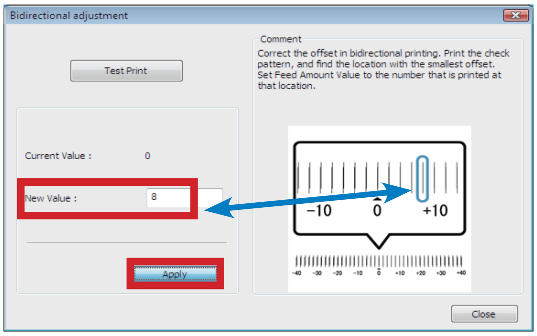
Current Value : 0

New Value : 8

② Click [Test Print].

The test pattern is printed.

Read the on-screen instructions and then enter a value in the [New Value] box. (▲mark is the present value)



Bidirectional adjustment
Test Print
Apply
Close
−10
0
+10
-40
-30
-20
-10
0
+10
+20
+30
+40

Comment
Correct the offset in bidirectional printing. Print the check pattern, and find the location with the smallest offset. Set Feed Amount Value to the number that is printed at that location.

Current Value : 0

New Value : 8

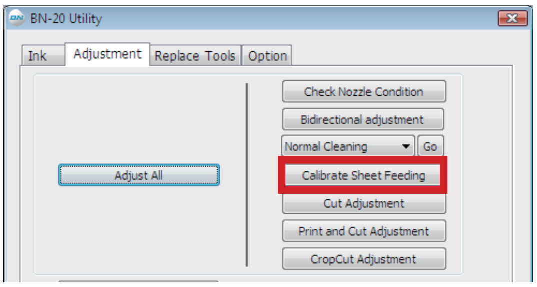
③ Read the on-screen instructions and then enter a value in the [New Value] box and Click [Apply]. (The value in [Present Value] changes to the entered value.)

Feed Calibration

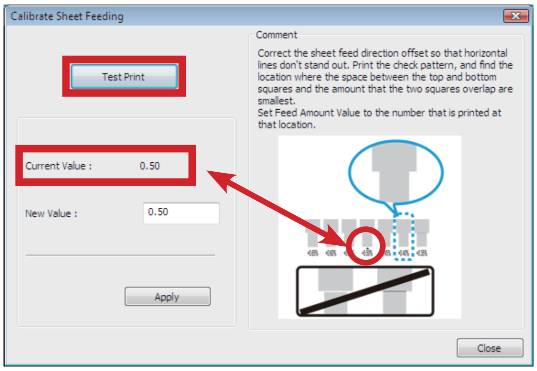
Media feeding distance slightly changes depending on the media thickness. If this feeding distance changes greatly, the bandings appear in the printing and in extreme cases result in white gaps.

Feed calibration is a function to correct errors in the media feeding amount caused by differences in media thickness.

Media feeding correction can improve printing quality by correcting the dot landing location.


BN-20 Utility
Ink
Adjustment
Replace Tools
Option
Check Nozzle Condition
Bidirectional adjustment
Normal Cleaning
Go
Adjust All
Calibrate Sheet Feeding
Cut Adjustment
Print and Cut Adjustment
CropCut Adjustment

① Click [Adjustment] -> [Calibrate Sheet Feeding Amount].


Calibrate Sheet Feeding
Test Print
Apply
Close
Comment

Current Value : 0.50

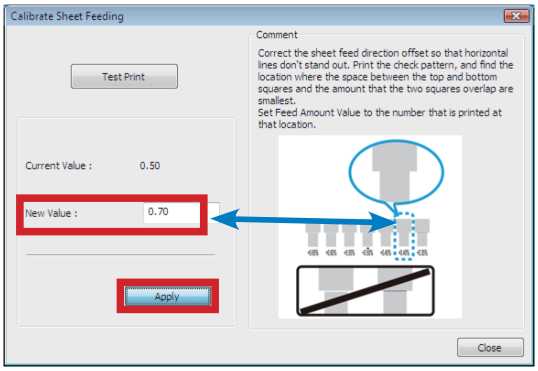
New Value : 0.50

Correct the sheet feed direction offset so that horizontal lines don't stand out. Print the check pattern, and find the location where the space between the top and bottom squares and the amount that the two squares overlap are smallest.
Set Feed Amount Value to the number that is printed at that location.

② Click [Test Print].

The test pattern is printed.

Read the on-screen instructions and then enter a value in the [New Value] box. (▲mark is the present value)


Calibrate Sheet Feeding
Test Print
Apply
Close
Comment

Current Value : 0.50

New Value : 0.70

Correct the sheet feed direction offset so that horizontal lines don't stand out. Print the check pattern, and find the location where the space between the top and bottom squares and the amount that the two squares overlap are smallest.
Set Feed Amount Value to the number that is printed at that location.

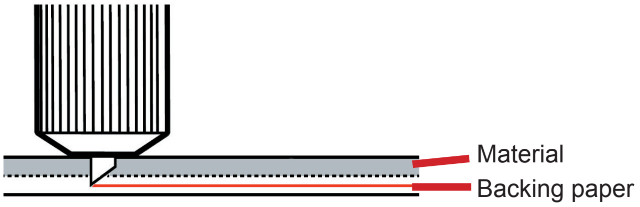
③ Read the on-screen instructions and then enter a value in the [New Value] box and Click [Apply].
(The value in [Present Value] changes to the entered value.)

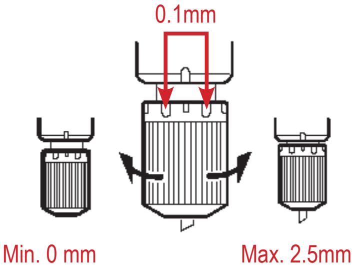
Adjusting Cutting

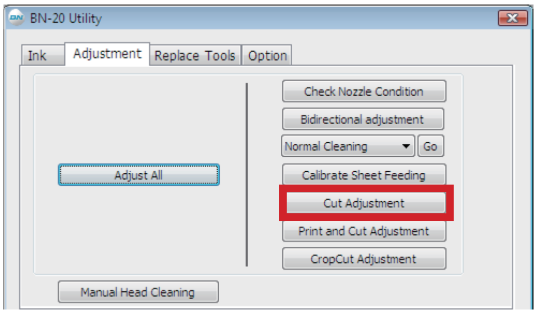
Perform the test cutting before cutting.

Use the following dimension as a rough estimate for setting the amount of blade extension.

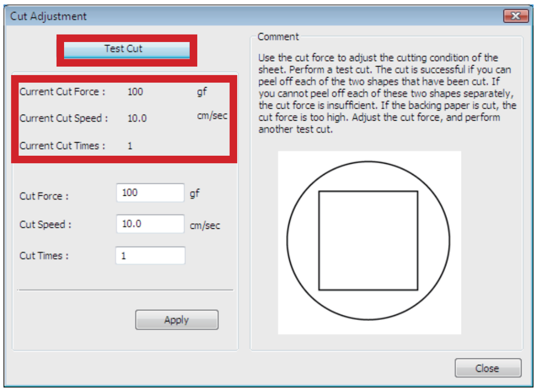
Amount of blade extension = Thickness of the material + Thickness of the backing paper / 2


Material
Backing paper


0.1mm
Min. 0 mm
Max. 2.5mm


BN-20 Utility
Ink
Adjustment
Replace Tools
Option
Adjust All
Check Nozzle Condition
Bidirectional adjustment
Normal Cleaning
Go
Calibrate Sheet Feeding
Cut Adjustment
Print and Cut Adjustment
CropCut Adjustment
Manual Head Cleaning

① Click [Adjustment] -> [Cut Adjustment].

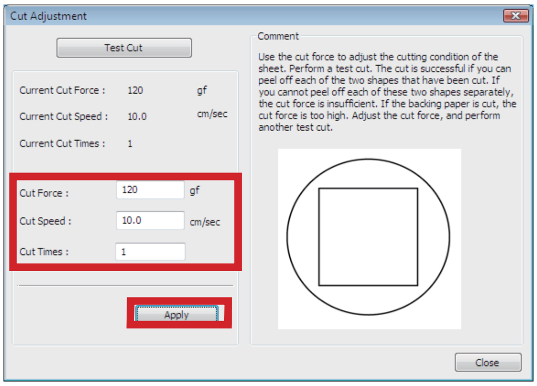

Cut Adjustment
Test Cut
Comment
Apply
Close

Current Cut Force : 100 gf
Current Cut Speed : 10.0 cm/sec
Current Cut Times : 1

Cut Force : 100 gf
Cut Speed : 10.0 cm/sec
Cut Times : 1

Use the cut force to adjust the cutting condition of the sheet. Perform a test cut. The cut is successful if you can peel off each of the two shapes that have been cut. If you cannot peel off each of these two shapes separately, the cut force is insufficient. If the backing paper is cut, the cut force is too high. Adjust the cut force, and perform another test cut.

② Check values in [Current Cut Force], [Cut Current Cut Speed], and [Current Cut Times].
After that Click [Apply]. Test cutting is performed


Cut Adjustment
Test Cut
Comment
Apply
Close

Current Cut Force : 120 gf
Current Cut Speed : 10.0 cm/sec
Current Cut Times : 1

Cut Force : 120 gf
Cut Speed : 10.0 cm/sec
Cut Times : 1

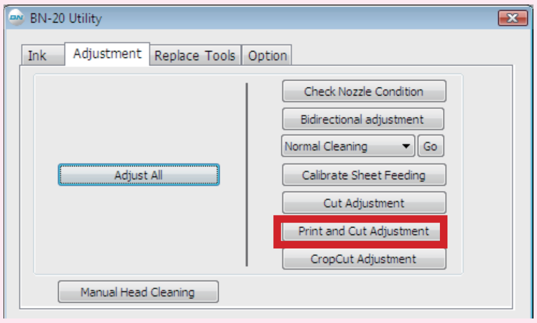
Use the cut force to adjust the cutting condition of the sheet. Perform a test cut. The cut is successful if you can peel off each of the two shapes that have been cut. If you cannot peel off each of these two shapes separately, the cut force is insufficient. If the backing paper is cut, the cut force is too high. Adjust the cut force, and perform another test cut.

③ If the circle and square can be peeled separately and there is a faint blade mark on the backing paper, it is OK (you do not need to change the value).
To change the cutting condition, change the value in [Cut Force], [Cut Speed], and [Cut Times] and click [Apply].
Repeat the adjustment until correctly adjusted.

Adjusting Printing & Cutting

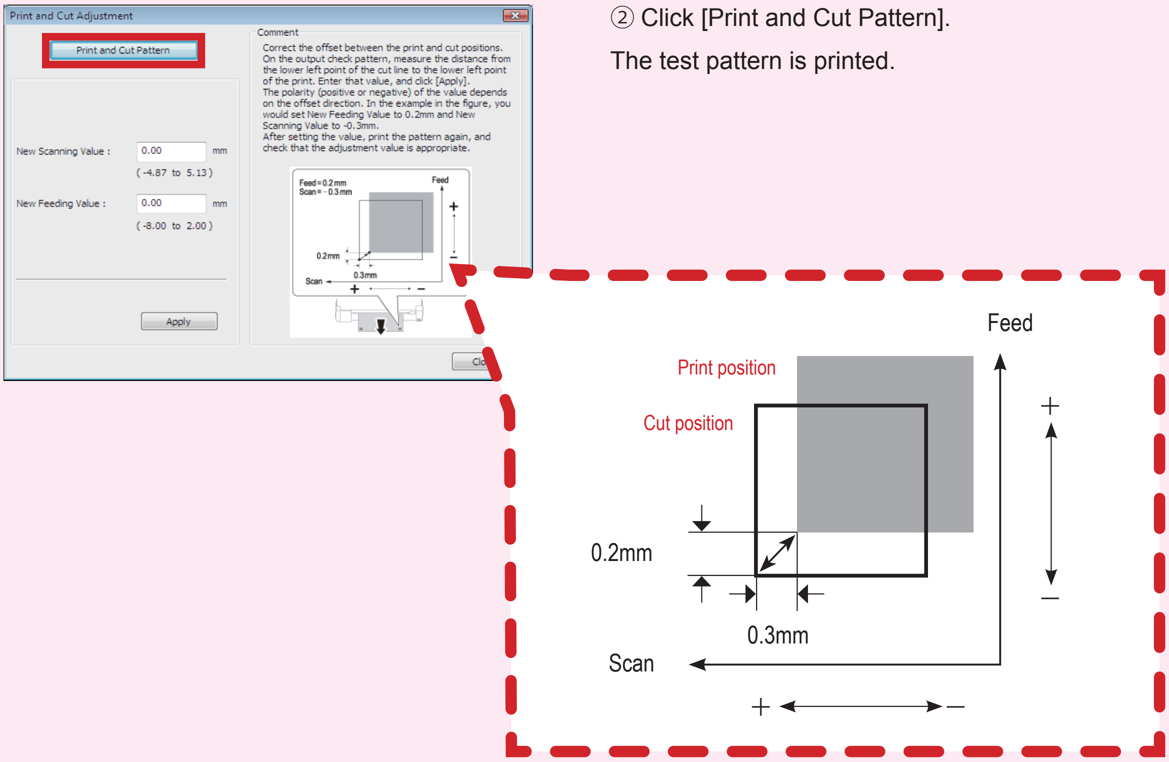
Depending on the media thickness, sometimes printing and cutting positions are very slightly out of alignment. It is recommended to set correction values to suit the media.

① Click [Adjustment] -> [Print_Cut Adjustment].


BN-20 Utility
Ink
Adjustment
Replace Tools
Option
Adjust All
Check Nozzle Condition
Bidirectional adjustment
Normal Cleaning
Go
Calibrate Sheet Feeding
Cut Adjustment
Print and Cut Adjustment
CropCut Adjustment
Manual Head Cleaning

② Click [Print and Cut Pattern].

The test pattern is printed.


Print and Cut Adjustment
Print and Cut Pattern
Apply
Comment
Feed=0.2mm
Scan=-0.3mm
Feed
+
−
0.2mm
0.3mm
Scan
Print position
Cut position

New Scanning Value : 0.00 mm (-4.87 to 5.13)

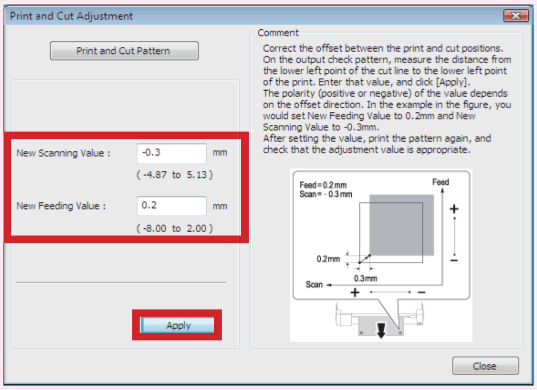
New Feeding Value : 0.00 mm (-8.00 to 2.00)

Correct the offset between the print and cut positions. On the output check pattern, measure the distance from the lower left point of the cut line to the lower left point of the print. Enter that value, and click [Apply].
The polarity (positive or negative) of the value depends on the offset direction. In the example in the figure, you would set New Feeding Value to 0.2mm and New Scanning Value to -0.3mm.
After setting the value, print the pattern again, and check that the adjustment value is appropriate.

③ Follow the on-screen instructions and enter the values for [New Value for Scanning] and [New Value for Feeding].

Ex. Enter the values for "New Value for Scanning : - 0.3mm" "New Value for Feeding" : 0.2mm" here.

Click [Print_Cut Adjustment] again to confirm aligment. Repeat it until correclty adjusted.


Print and Cut Adjustment
Print and Cut Pattern
Apply
Close
Comment
Feed=0.2mm
Scan=-0.3mm
Feed
+
−
0.2mm
0.3mm
Scan

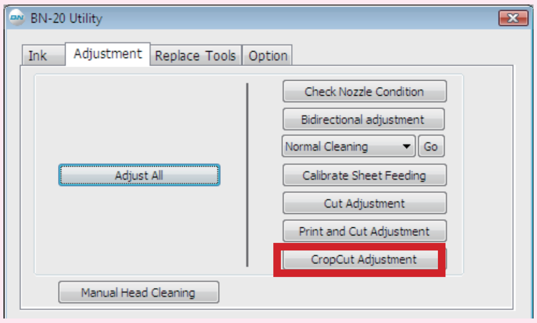
New Scanning Value : -0.3 mm (-4.87 to 5.13)

New Feeding Value : 0.2 mm (-8.00 to 2.00)

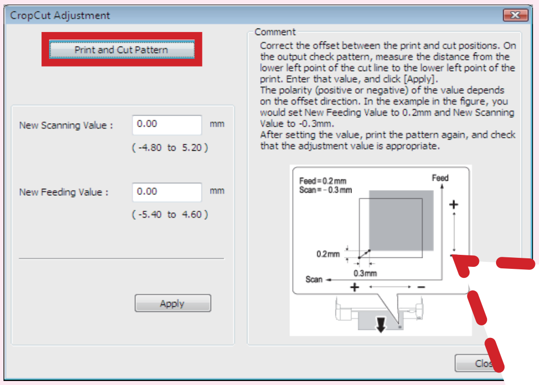
Correct the offset between the print and cut positions. On the output check pattern, measure the distance from the lower left point of the cut line to the lower left point of the print. Enter that value, and click [Apply].
The polarity (positive or negative) of the value depends on the offset direction. In the example in the figure, you would set New Feeding Value to 0.2mm and New Scanning Value to -0.3mm.
After setting the value, print the pattern again, and check that the adjustment value is appropriate.

Crop Cut Adjustment

Depending on the material of the media, the positioning of printing and cutting may be misaligned even when you're using crop marks. Make corrections for misaligned printing and cutting for the media you're using.


BN-20 Utility
Ink
Adjustment
Replace Tools
Option
Adjust All
Check Nozzle Condition
Bidirectional adjustment
Normal Cleaning
Go
Calibrate Sheet Feeding
Cut Adjustment
Print and Cut Adjustment
CropCut Adjustment
Manual Head Cleaning

① Click [Adjustment] -> [CropCut Adjustment].


CropCut Adjustment
Print and Cut Pattern
Apply
Feed
Scan
0.2mm
0.3mm

New Scanning Value : 0.00 mm (-4.80 to 5.20)

New Feeding Value : 0.00 mm (-5.40 to 4.60)

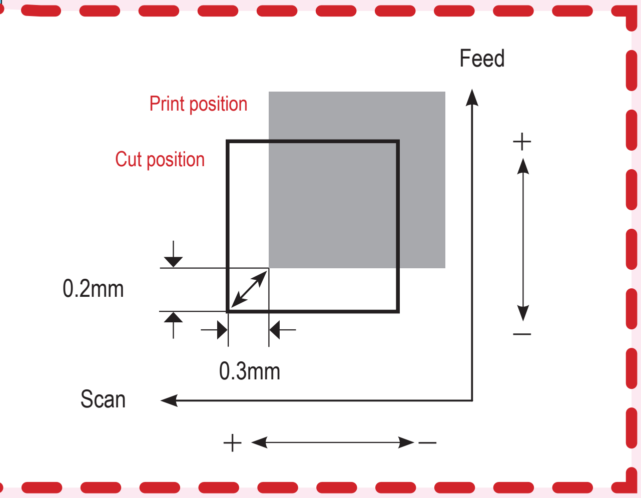
Comment

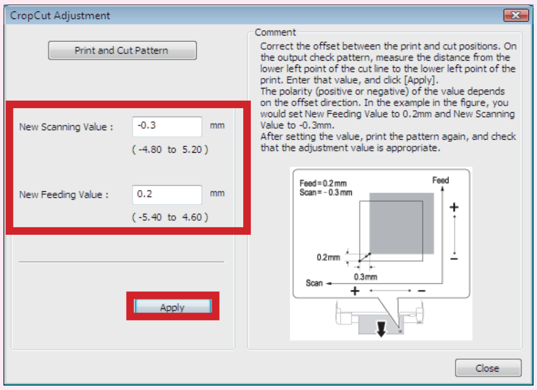
Correct the offset between the print and cut positions. On the output check pattern, measure the distance from the lower left point of the cut line to the lower left point of the print. Enter that value, and click [Apply].
The polarity (positive or negative) of the value depends on the offset direction. In the example in the figure, you would set New Feeding Value to 0.2mm and New Scanning Value to -0.3mm.
After setting the value, print the pattern again, and check that the adjustment value is appropriate.

Feed=0.2mm
Scan=−0.3mm

② Click [Print and Cut Pattern].

The test pattern is printed.


Feed
Print position
Cut position
+
−
0.2mm
0.3mm
Scan
+
−


CropCut Adjustment
Print and Cut Pattern
Apply
Close
Feed
Scan
0.2mm
0.3mm

New Scanning Value : -0.3 mm (-4.80 to 5.20)

New Feeding Value : 0.2 mm (-5.40 to 4.60)

Comment

Correct the offset between the print and cut positions. On the output check pattern, measure the distance from the lower left point of the cut line to the lower left point of the print. Enter that value, and click [Apply].
The polarity (positive or negative) of the value depends on the offset direction. In the example in the figure, you would set New Feeding Value to 0.2mm and New Scanning Value to -0.3mm.
After setting the value, print the pattern again, and check that the adjustment value is appropriate.

Feed=0.2mm
Scan=−0.3mm

③ Follow the on-screen instructions and enter the values for [New Value for Scanning] and [New Value for Feeding].
Ex. Enter the values for "New Value for Scanning : - 0.3mm" "New Value for Feeding" : 0.2mm" here.
Click [Print_Cut Adjustment] again to confirm aligment. Repeat it until correclty adjusted.

5 User Maintenance

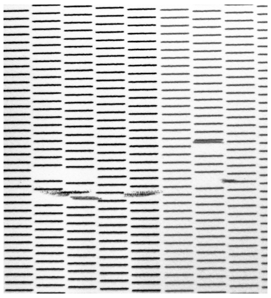
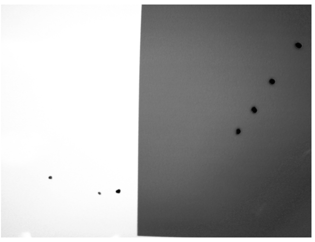
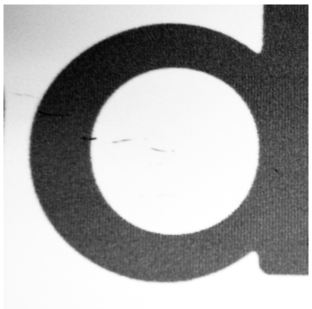
Manual Cleaning

When problems such as missing nozzles frequently occur and they are not fixed up even by using the print head cleaning function of the Utility, you can clean the print head again using a cleaning stick.

Using the cleaning stick, you can directly remove dust, dirt and lump of ink attached on the edge of the print head that may cause missing nozzles and ink drop.

It is more effective that you perform the print-head cleaning with the cleaning stick periodically in accordance to the frequency of use.

If the problems do not improve even after cleaning using the cleaning stick, it may be that the print head is damaged or worn out. Contact Roland DG Service Center.

Nozzle clogging	Ink spots	Dragged dirt
		
Dust and dirt stick to the print head and prevent normal firing of ink.	Ink gathers around dirt and grime near the print head and ink drops are formed.	Dragging occurs when dirt around the print head comes into contact with media.

Important requirements for Manual Head Cleaning

Always carefully follow the procedures in accordance with the instructions.
Otherwise a sudden movement of the machine may cause injury.

Remove media before cleaning.

To prevent the head from drying out, complete the cleaning within 30 minutes. After 30 minutes a warning alarm will sound.

Only use the included cleaning sticks. Any other tool, e.g. cotton bud or similar is not designed for this task and will become fluffy and damage the head. Please order cleaning sticks directly from us or your authorized Roland DG Corp. dealer.

Do not use a cleaning stick more than once; the print quality will deteriorate. Dispose of the stick after each cleaning.

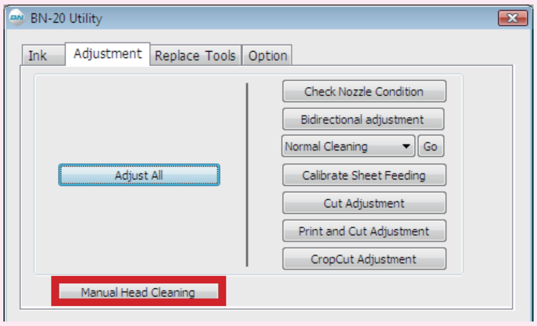
Do not soak a used cleaning stick in cleaning fluid; the cleaning fluid will deteriorate.

Do not rub the nozzle surface of the head.

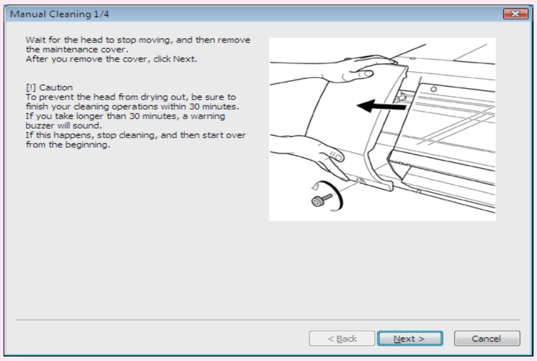
Clean the sponge section by stroking very lightly and gently. Do not rub, scrape, or flatten the section.

When a warning alarm sounds during cleaning

An alarm sounds 30 minutes after the start of the operation. Perform the operation by following the message displayed in the Utility window.


BN-20 Utility
Ink
Adjustment
Replace Tools
Option
Check Nozzle Condition
Bidirectional adjustment
Normal Cleaning
Go
Calibrate Sheet Feeding
Cut Adjustment
Print and Cut Adjustment
CropCut Adjustment
Adjust All
Manual Head Cleaning

① Click [Adjustment] ->[Manual Head Cleaning].



Manual Cleaning 1/4

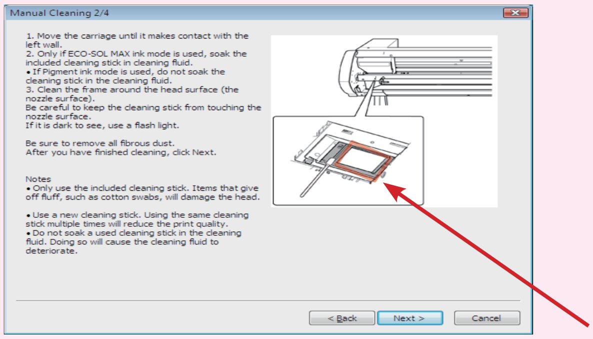
Wait for the head to stop moving, and then remove the maintenance cover.
After you remove the cover, click Next.

[!] Caution
To prevent the head from drying out, be sure to finish your cleaning operations within 30 minutes.
If you take longer than 30 minutes, a warning buzzer will sound.
If this happens, stop cleaning, and then start over from the beginning.

< Back
Next >
Cancel

② Manual Cleaning procedures are displayed.
Wait for the head to stop moving, and then remove the maintenance cover.

Click [Next].



Manual Cleaning 2/4

1. Move the carriage until it makes contact with the left wall.
2. Only if ECO-SOL MAX ink mode is used, soak the included cleaning stick in cleaning fluid.
• If Pigment ink mode is used, do not soak the cleaning stick in the cleaning fluid.
3. Clean the frame around the head surface (the nozzle surface).
Be careful to keep the cleaning stick from touching the nozzle surface.
If it is dark to see, use a flash light.

Be sure to remove all fibrous dust.
After you have finished cleaning, click Next.

Notes
• Only use the included cleaning stick. Items that give off fluff, such as cotton swabs, will damage the head.

• Use a new cleaning stick. Using the same cleaning stick multiple times will reduce the print quality.
• Do not soak a used cleaning stick in the cleaning fluid. Doing so will cause the cleaning fluid to deteriorate.

< Back
Next >
Cancel

③ Manual Head Cleaning procedures are displayed.
1.Move the carriage to the extreme left.
2.Soak the cleaning stick in cleaing liquid.
3.Clean the metal frame of the head side.

Click [Next] after all procedures are completed.

Metal frame of head

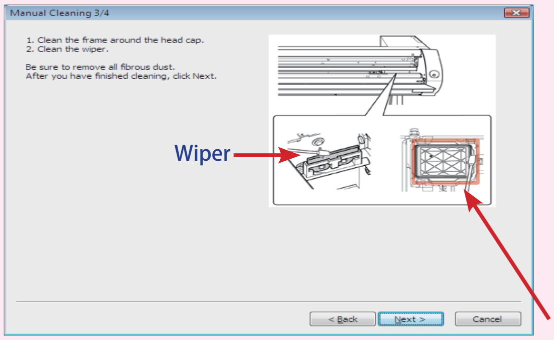
Cleaning stick

Cleaning liquid

CLEANING LIQUID

Clean the heads using stick and liquid

CLEANING LIQUID



Manual Cleaning 3/4

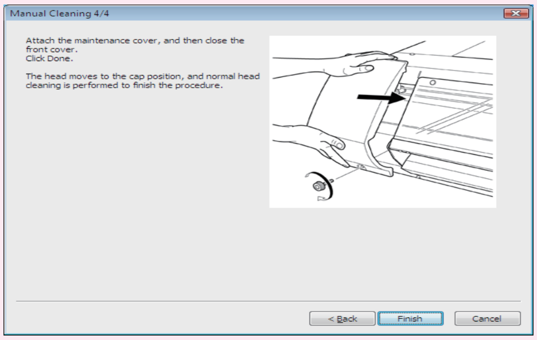
1. Clean the frame around the head cap.
2. Clean the wiper.

Be sure to remove all fibrous dust.
After you have finished cleaning, click Next.

④ Procedures for cleaning the head cups and the wiper are displayed.

1. Clean the metal frame of head cap.
2. Clean a wiper.

Click [Next] after all procedures are completed.



Manual Cleaning 4/4

Attach the maintenance cover, and then close the front cover.
Click Done.

The head moves to the cap position, and normal head cleaning is performed to finish the procedure.

⑤ Manual Head Cleaning procedures are displayed. Fix the maintenance cover and then close front cover. Click [finish].

The head caridge returns to head cap's position and then normal cleaning automatically starts.

ADVICE

When consumable parts such as cleaning sticks are used up, reorder using the following item codes.

Item Code	Name
KIT.CLEANING(SL)	Cleaning Kit (for UV/solvent printers)
SET.CLEANER STICK TX712A 10PCS	Contains 10 cleaning sticks

6 Ink and Media

ECO-SOL MAX INK Usage Conditions

1) When using the printer

Do not place the printer in any place where it will be subjected to direct sunlight or high temperature. If the printer is heated by direct sunlight, the nature of the ink can change, which may have adverse effects on the head and other components.

If the printer is placed in a cold environment, low temperatures may cause the ink to freeze which may cause damage to the head.

- Operation environment --> Temperature 20-32ºC, Humidity 35-80% (no condensation)l
- Ink usage environment --> Temperature 15-35ºC, Humidity 35-80% (no condensation)l

2) Ink storage

ECO-SOL MAX INK should be stored under the following storage conditions, and ink cartridges should be kept out of direct sunlight. In addition, ink cartridges should be shaken before use.

- Ink storage conditions ⇒ Temperature 5-40ºC, Humidity 20-80% (no condensation)

Media

1) Roland DG Media

Roland DG brand media developed specially for use with ECO-SOL MAX INK, it can not only be used for ICC-based color profiles critical to color management, but also make high quality printing possible using water-based ink by conducting various print controls including variable dot control matched to media characteristics by the Roland DG RIP software VersaWorks.

It is recommended that customers who require accurate color reproduction and high-quality images use Roland DG media.

2) Non-Roland DG Media

ECO-SOL MAX INK can print on so-called commercial non-coated media.]

Output quality varies depending on the media used.When using a non-Roland DG media for the first time, it is recommended that you perform a print test and use the media once its compatibility with ECO-SOL MAX INK has been confirmed.

ECO-SOL MAX INK and Media

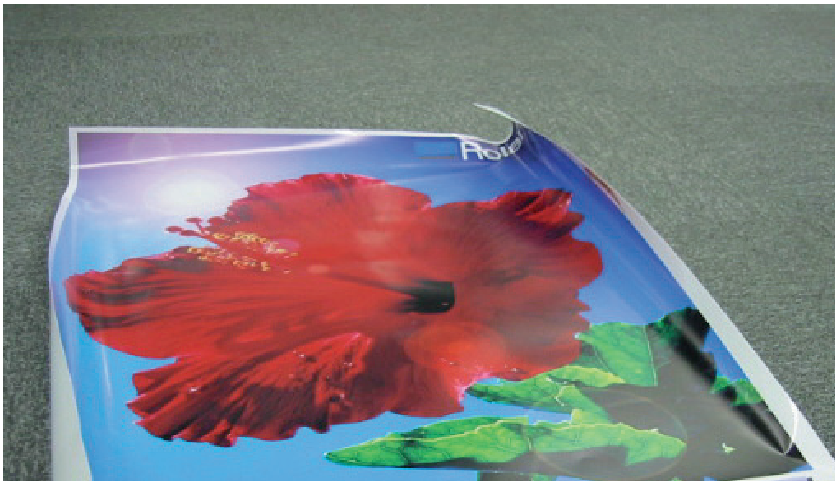
ECO-SOL MAX INK is not an organic solvent and is environmentally friendly. However, as with other solvent inks, it has the following characteristics, particularly with regard to vinyl media,

When using a non-Roland DG media for the first time, it is recommended that you perform a print test and use the media once its compatibility with ECO-SOL MAX INK has been confirmed.

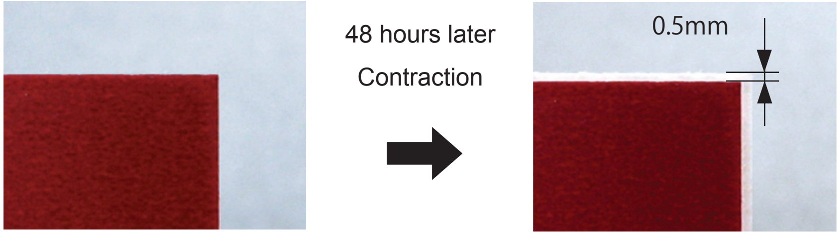
ECO-SOL MAX INK Characteristics (Vinyl Media)

1) Shrinkage

The solvent component of ECO-SOL MAX INK and the printer heater cause shrinkage mainly at the printed portions of vinyl media.



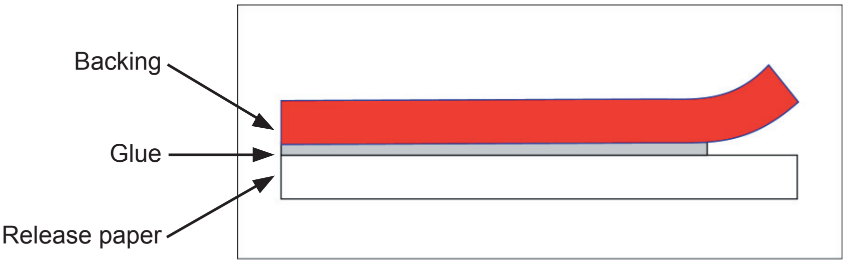
Contraction following cutting of the printed surface

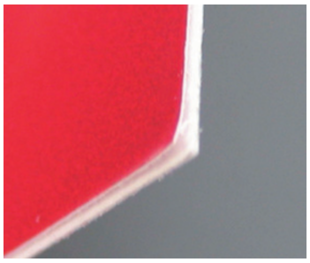


2) Warping

When cutting the sheet along the printed surface or performing standard cutting, the cross section may warp as shown in the figure.

Contraction of the media can cause the glued surface to rise and dry, weakening bond strength. If printing is carried out under these circumstances, the printed surface may not adhere with sufficient strength.





Measures Against Warping and Shrinkage

Handling media as described below can reduce warping and contraction.

① Print with a margin (add a non-printed area).

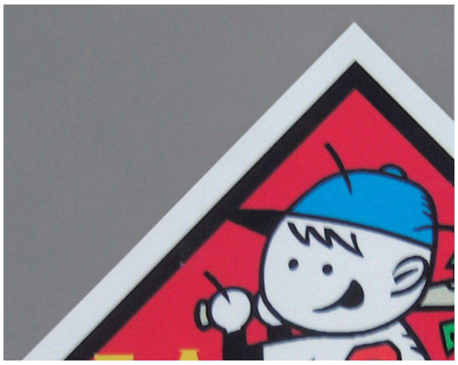
② When it is absolutely necessary to cut the sheet along the printed surface, cut the sheet directly before printing.

③ Areas without a margin warp upwards after printing.It is recommended that roll printing is performed where possible.

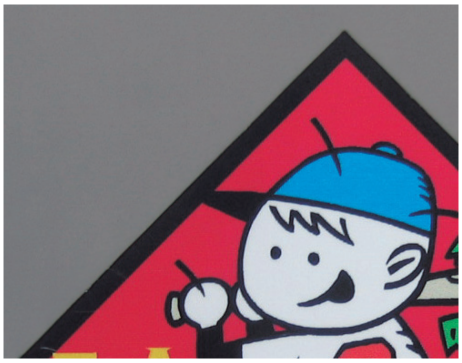
Considerations when printing and cutting

It is advised that cutting is performed with a margin when printing and cutting.When the design necessitates that cutting is performed along the printed surface, postponing the removal of waste until printing is finished can reduce warping.

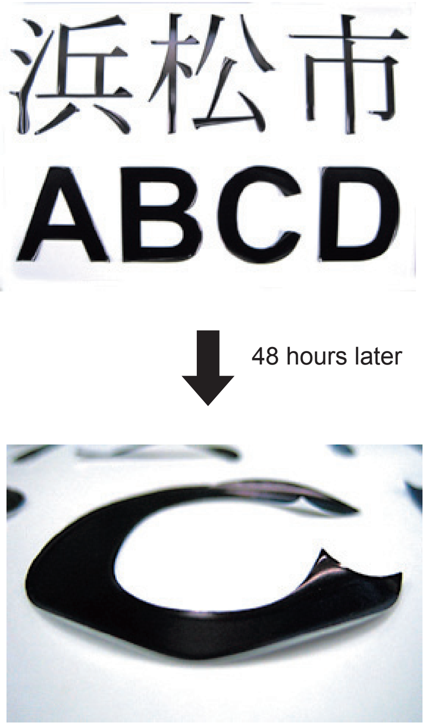
Margin present



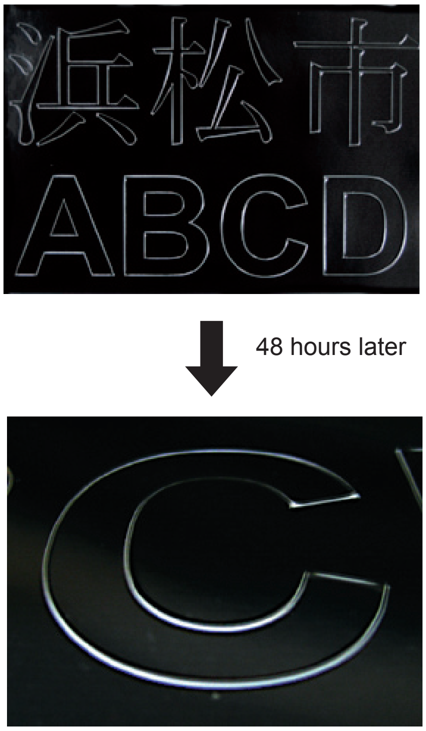
No margin



Waste removed



Waste not removed



Roland DG Academy

Roland DG Corporation

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